

**DANNA ESTATES
ADMINISTRATIVE RECORD FILE
INDEX OF DOCUMENTS**

1.0 FACTUAL INFORMATION/DATA

1.2 Site Investigation

- P. 100001-100004 Memorandum to Mr. David Seter, Bureau of Water Supply, State of New Jersey Department of Environmental Protection, through Mr. Rocky Richards, Section Chief, Bureau of Water Supply, State of New Jersey Department of Environmental Protection, from Ms. Lorri Scruggs, Bureau of Ground-Water Pollution Analysis, New Jersey Geological Survey, State of New Jersey Department of Environmental Protection, through Mr. Steven Spayd, Section Chief, Bureau of Ground-Water Pollution Analysis, New Jersey Geological Survey, State of New Jersey Department of Environmental Protection, re: Deerfield Township Mercury Investigation, Cumberland County - Request for Update, March 10, 1987.
- P. 100005-100007 Memorandum to Mr. Peter Patterson, Acting Chief, SBRE, from Mr. Ray Nichols, Senior Environmental Specialist, Division of Water Resources, State of New Jersey Department of Environmental Protection, through Mr. Gene Callahan, Principal Environmental Engineer, Division of Water Resources, State of New Jersey Department of Environmental Protection, re: A280 Site Investigation Report (Mercury Contamination), Deerfield Township/Cumberland County, Pittsgrove Township/Salem County, June 2, 1987. (Attached: Deerfield/Pittsgrove area map.)

1.3 POLREPs

- P. 100008-100009 Pollution Report One (1), Removal Action, Danna Estates, Deerfield and Pittsgrove Townships, New Jersey, prepared by Ms. Lise Pederson, On-Scene Coordinator, Response and Prevention Branch, U.S. EPA, Region II, Recipients: See Distribution List, May 25, 1988.
- P. 100010-100012 Pollution Report One (2), Removal Action, Danna Estates, Deerfield and Pittsgrove Townships, New Jersey, prepared by Ms. Lise Pederson, On-Scene Coordinator, Response and Prevention Branch, U.S. EPA, Region II, Recipients: See Distribution List, April 13, 1989.
- P. 100013-100014 Pollution Report Three (3), Removal Action, Danna Estates, Deerfield and Pittsgrove Townships, New Jersey, prepared by Ms. Lise Pederson, On-Scene Coordinator, Response and Prevention Branch, U.S. EPA, Region II, Recipients: See Distribution List, May 10, 1989.



- P. 100015-100017 Pollution Report Four (4), Removal Action, Danna Estates, Deerfield and Pittsgrove Townships, New Jersey, prepared by Ms. Lise Pederson, On-Scene Coordinator, Response and Prevention Branch, U.S. EPA, Region II, Recipients: See Distribution List, June 20, 1989.
- P. 100018-100019 Pollution Report Five (5), Removal Action, Danna Estates, Deerfield and Pittsgrove Townships, New Jersey, prepared by Ms. Lise Pederson, On-Scene Coordinator, Response and Prevention Branch, U.S. EPA, Region II, Recipients: See Distribution List, June 26, 1989.
- P. 100020-100022 Pollution Report Six (6), Removal Action, Danna Estates, Deerfield and Pittsgrove Townships, New Jersey, prepared by Mr. Robert M. Cobiella, On-Scene Coordinator, Response and Prevention Branch, U.S. EPA, Region II, Recipients: See Distribution List, September 6, 1989.
- P. 100023-100024 Pollution Report Seven (7), Removal Action, Danna Estates, Deerfield and Pittsgrove Townships, New Jersey, prepared by Mr. Robert M. Cobiella, On-Scene Coordinator, Response and Prevention Branch, U.S. EPA, Region II, Recipients: See Distribution List, December 29, 1989.

1.7 Sampling Data/Data Summary Sheets/Chain of Custody Forms

- P. 100025-100025 The actual document is available for review in the Danna Estates site file. Site files are located at the United States Environmental Protection Agency, Region II, Removal Records Center, Building 205, 2890 Woodbridge Avenue, Edison, New Jersey, 08837.

2.0 DECISION DOCUMENTS

2.2 Action Memoranda and Amendments

- P. 200001-200002 Request for Approval and Funding Authorization to take Removal Action under CERCLA/SARA at the Deerfield Site in Townships of Deerfield and Pittsgrove, Salem and Cumberland Counties, New Jersey, Expedited Action Memorandum, to Mr. Stephen D. Luftig, Director, Emergency and Remedial Response Division, U.S. EPA, Region II, from Ms. Lise Pederson, On-Scene Coordinator, Response and Prevention Branch, U.S. EPA, Region II, February 25, 1988.

- P. 200003-200012 Request for a Twelve Month Exemption for the Danna Estates Site, Deerfield and Pittsgrove Townships, New Jersey, Action Memorandum, to Mr. William J. Muszynski, P.E., Acting Regional Administrator, U.S. EPA, Region II, from Ms. Lise Pederson, On-Scene Coordinator, Removal Action Branch, U.S. EPA, Region II, through Mr. Stephen D. Luftig, Director, Emergency and Remedial Response Division, U.S. EPA, Region II, March 17, 1989. (Attached: 1. Study area location map; 2. Appendix B, Sampling information.)
- P. 200013-200025 Removal Funding Request for an Alternate Water Supply for Danna Estates, Deerfield and Pittsgrove Townships, Cumberland and Salem Counties, New Jersey, Action Memorandum, to Mr. Stephen D. Luftig, Director, Emergency and Remedial Response Division, U.S. EPA, Region II, from Ms. Lise Pederson, On-Scene Coordinator, Removal Action Branch, U.S. EPA, Region II, through Mr. Richard C. Salkie, Associate Director, Removal and Emergency Preparedness Programs, March 17, 1989. (Attached: 1. Study area location map; 2. Water supply well location map; 3. Appendix B, Sampling information.)
- P. 200026-200028 Request for Additional Funding to Complete Removal Activity at Danna Estates, Deerfield Township, New Jersey, Action Memorandum, to Mr. Stephen D. Luftig, Director, Emergency and Remedial Response Division, U.S. EPA, Region II, from Mr. Robert M. Cobiella, P.E., On-Scene Coordinator, Removal Action Branch, U.S. EPA, Region II, through Mr. Richard C. Salkie, Associate Director for Removal and Emergency Preparedness Programs, September 26, 1989.

2.3 Documentation of State Involvement

- P. 200029-200031 Letter to Mr. Christopher J. Daggett, Regional Administrator, U.S. EPA, Region II, from Mr. Richard T. Dewling, Commissioner, State of New Jersey Department of Environmental Protection, re: Request for assistance, December 14, 1987. (Attached: Letter to Mr. Richard T. Dewling, Commissioner, State of New Jersey Department of Environmental Protection, from Mr. Christopher J. Daggett, Regional Administrator, U.S. EPA, Region II, re: Response to request for assistance, January 21, 1988.)
- P. 200032-200033 Letter to Ms. Kathleen Callahan, Director, Emergency and Remedial Response Division, U.S. EPA, Region II, from Mr. Lance R. Miller, Assistant Commissioner, Division of Responsible Party Site Remediation, State of New Jersey Department of Environmental Protection and Energy, re: Removal Request - Dana Estates Site, Deerfield, New Jersey, August 27, 1991.

3.0 PUBLIC PARTICIPATION

3.7 Correspondence

P. 300001- Letter to Resident(s), from Ms. Lise Pederson, On-Scene Coordinator,
300001 Response and Prevention Branch, U.S. EPA, Region II, re: Resident water
sampling information, March 23, 1987.



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625

GEORGE G. McCANN, P.E.
DIRECTOR

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

MAR 10 1987

MEMORANDUM

TO: David Seter through Rocky Richards, Section Chief,
Bureau of Water Supply

FROM: Lorri ~~Scruggs~~ ^{SS} through Steven Spayd, Section Chief,
Bureau of Ground-Water Pollution Analysis, New Jersey
Geological Survey

SUBJECT: Deerfield Township Mercury Investigation, Cumberland
County- Request for Update

SUMMARY

In July 1986, the Deerfield Well Contamination investigation was transferred to the writer. Based on a review of Bureau of Ground-Water Pollution Analysis (BGWPA) and Bureau of Water Supply (BWS) files, it is evident that the BGWPA is in need of a case status update.

BACKGROUND

In a February 1985 correspondence, BWS requested BGWPA's assistance in evaluating a mercury contamination problem affecting private domestic wells in Deerfield Township, Cumberland County. Specifically, BWS requested that BGWPA assist in the following areas: development of specifications that can be used to drill deeper wells in the subject area, evaluation of the possibility that the new wells may encounter or create additional pathways for contaminant migration, and investigation and delineation of the extent and source of contamination in the area.

In May 1985, BGWPA sent a memorandum to BWS stating that more information on the stratigraphy beneath the subject area, including local aquifer characteristics and properties, was needed to adequately evaluate the possibility of deeper replacement wells. As a result, early in the summer of 1985, BWS awarded a contract to R.E. Wright Associates, Inc. (REWAI), earth resources consultants, to research the viability of deeper replacement wells.

In August 1985, REWAI submitted a Proposal for Performing a Replacement Water Supply Evaluation to the BWS for review and comment. Two revisions were resubmitted in September and December 1985, respectively. It appears that the revisions were based on verbal discussion between BWS and REWAI. The December 1985 draft of the Amended Scope of Work is the most recent report from REWAI that BGWPA has on file.

Records indicate that BWS and REWAI met in September 1986 to discuss the final draft format of the Deerfield replacement well(s) proposal. Records also reveal that REWAI advised BWS, in October 1986, that replacement wells are not a viable alternate water supply, because REWAI feels that the possibility exists that the pumping influence of the replacement well(s) could induce deeper migration of mercury contamination. The BGWPA was not notified of the previously mentioned meetings and subsequently did not have input on any final decisions made concerning the site. A final copy of the proposed site investigation/sampling work plan has also not been received by BGWPA for review and comment.

CONCLUSION

The BWS has not interfaced with BGWPA with respect to: scheduling meetings (in house or with the consultant), disseminating vital information and data (reports, progress summaries, correspondence) and coordination of the overall case investigation. With the absence of crucial technical and case progress information, BGWPA cannot effectively assist in reaching a successful completion of the Deerfield investigation. BGWPA requests that BWS provide BGWPA with a full status update on the case from January 1986 to the present.

RECOMMENDATIONS

1. Copies of all technical correspondence, data and reports,

since December 12, 1985, pertaining to the ground-water investigation should be forwarded to the BGWPA for review and evaluation. The information should include, at a minimum, the following items:

- a. All monitor well locations and well records for those wells installed by REWAI in the process of the investigation, including well permit numbers;
 - b. All soil sample locations;
 - c. All as-built construction diagrams and details for monitoring wells;
 - d. All ground-water and soil sampling procedures, protocols and methodologies, including decontamination procedures and protocols used in securing the samples;
 - e. All monitor well ground-water and soil sample analyses, including quality assurance/quality control documentation;
 - f. An operational description of the 24 hour constant-rate pumping test of the deep monitor well on the Rehm property (designated PW-1 by REWAI in a September 11, 1986 correspondence), which was performed from July 1 to 2, 1986. All results of the pumping test, as well as any recommendations, comments and conclusions which the consultant drew based upon these results.
2. If a final proposal has been submitted to BWS by REWAI, a copy should be forwarded to the BGWPA for review and comment. All findings upon which REWAI based the conclusion that replacement wells are not a viable alternate potable water source should be included along with this proposal package.

After the previously requested technical correspondence, data and reports have been submitted to BGWPA and we have discussed the project and had adequate time to review and prepare comments, we will submit recommendations to your office.

A meeting should be scheduled between BGWPA and BWS to discuss the present status of the investigation and any immediate remediations which may be planned and/or forthcoming. During the meeting detailed above, BWS should be prepared to discuss remedial action plans for the site(s) and homeowners. We will contact your office within two weeks of the date of this correspondence to arrange a date for the meeting. If you have any questions or require further clarification with respect to this memorandum, please feel free to call.

c: Ray Nichols, Southern Bureau of Regional Enforcement, DWR
HK/WFA/FILE



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WATER RESOURCES

SOUTHERN BUREAU OF REGIONAL ENFORCEMENT
20 EAST CLEMENTON ROAD
THE PAINT WORKS
GIBBSBORO, NEW JERSEY 08026

GEORGE G. McCANN, P.E.
DIRECTOR

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

JUN 2 1987

M E M O R A N D U M

TO: Peter Patterson, Acting Chief, SBRE
THROUGH: Gene Callahan, Principal Env. Engineer
FROM: Ray Nichols, Sr. Env. Specialist *Ray Nichols*
SUBJECT: A280 Site Investigation Report (Mercury Contamination)
Deerfield Township/Cumberland Co.
Pittsgrove Township/Salem Co.

RECEIVED

JUN 02 1987

FINDINGS:

N.J. STATE DEPT. OF ENVIRONMENTAL PROTECTION
WATER SUPPLY & WATERSHED M.D. ADM.

On April 23, 1987, I conducted a site inspection of the subject case together with Lorri Scruggs and Linda Welkom of the NJGS. Attached is a map of the subject area.

The homes with the contaminated wells are set on 1-3 acre wooded lots. The trees, predominantly oaks, appear to be 40-60 years old. At one property, the Ryley residence, it appeared that a new well had been installed recently.

The gravel pit/"dump" located in Parvin State Park, across Morton Avenue from the affected homes appears to have been used as a "borrow pit" for the Park and as a dump for concrete and fencing from the Park's operations. There was no significant evidence of unauthorized dumping by the public.

Discussions with the Park Ranger, Bruce Matthews, revealed that the local residents suspected that the source of the contamination is the Upper Deerfield Township Landfill. This landfill is on the National Priority List. Mercury contamination has been found in the monitor wells associated with this landfill. The landfill is located about 1.7 miles west-southwest of the homes with contaminated wells.

Surface water runoff from the landfill appears to drain to Thundergust Brook which flows just south of the subject homes. The area between the landfill and the subject homes is actively farmed. There are at least two irrigation wells which serve this farmland.

Reports from the early 1980's include an evaluation of well data from the landfill case indicated that the direction of groundwater flow seemed to vary from northeasterly to southwesterly. More recently this investigation has concentrated on sampling from the residential wells located south and southeast of the landfill.

CONCLUSIONS:

Due to the virtual absence of potable wells immediately east and northeast of the landfill, there appears to have been negligible sampling in that direction. Consequently, no one in DEP involved with this landfill case and with whom I have talked, is willing at this time to connect it with the subject case.

RECOMMENDATIONS FOR FURTHER STUDY:

1. Lorri Scruggs will be preparing a geological report.
2. Coordinate this investigation more closely with the existing, ongoing investigation of the landfill case.
3. Coordinate groundwater investigation with efforts to develop a safe water supply by the Bureau of Water Supply.
4. Identify and sample all irrigation wells and any other existing wells located between the landfill and the subject homes.
5. New homes are being constructed in the immediate vicinity of previously contaminated wells. All new wells should be tested for mercury contamination.
6. Consider installation of additional monitor wells east and east-northeast of the landfill.
7. Sample soils over a wide area to get a better handle on background mercury levels.
8. Ascertain under what conditions mercury might have been applied as a pesticide, fungicide, or herbicide to agricultural lands.

Attachment

LH

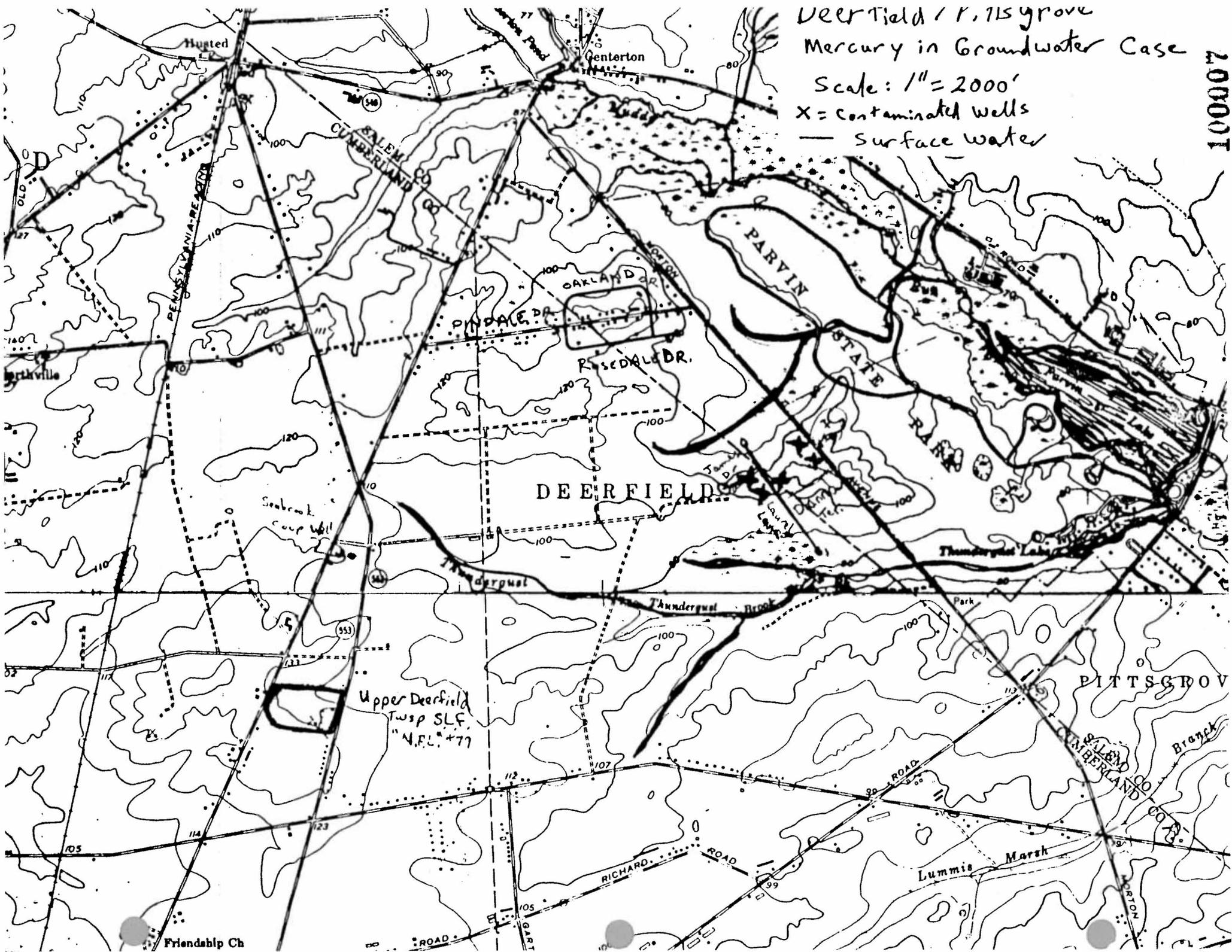
cc: Lorris Scruggs, NJGS
Linda Welkom, NJGS
Division File
Bureau of Water Supply

100006

Deerfield / Pittsgrove
Mercury in Groundwater Case

Scale: 1" = 2000'
X = contaminated wells
— surface water

700001



Friendship Ch

PITTSGROVE

CUMBERLAND CO. PITTSGROVE CO.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08817

POLLUTION REPORT

Region II
Response and Prevention Branch
Edison, New Jersey 08837

DATE: 25 May 1988

(201) 321-6614 - Commercial & FTS

To: C. Daggett, EPA
S. Luftig, EPA
R. Salkie, EPA
G. Zachos, EPA
J. Marshall, EPA
ERD Washington
(E-Mail)
J. Czapor, EPA
R. Cobiella, EPA
B. Sprague, EPA
J. Gaston, NJDEP
J. Trela, NJDEP
R. Cahill, EPA

POLREP NO. One (1)
INCIDENT/SITE NO.: Danna Estates/2S
POLLUTANT: mercury
CLASSIFICATION: Major
SOURCE: unknown
LOCATION: Deerfield and Pittsgrove Twps., New Jersey
AMOUNT: Unknown
WATER BODY: Kirkwood-Cohansey aquifer

1. SITUATION:

- A. In January of 1984, the Salem County Department of Health (SCDOH) sampled 37 homes throughout the Pittsgrove Township area. This area included Danna Estates, well in Parvin State Park and well northwest and southeast of Danna Estates. All samples that exceeded the MCL (2 ppb) were located in Danna Estates.
- B. Subsequent sampling by Cumberland County Department of Health (CCDOH), showed three homes exceeding the RAL. Since then New Jersey Department of Environmental Protection (NJDEP), and R.E. Wright Associates, Inc. (REWAI) showed six residents exceeding the MCL (5.5 ppb) with four homes exceeding the RAL. Please note that not all homes in the subdivision were sampled in every sampling event.
- C. No source of contamination is found. As a result, no potentially responsible party is taking timely action.

2. ACTION TAKEN:

100008

- A. Bottled water delivery starts to five homes in March 1988.
- B. One resident has own well sampled and finds mercury levels exceeding the RAL. Bottled water delivery starts for them.
- C. In March, 1988, USEPA sampled all occupied homes in the Danna Estates subdivision. Four homes exceeded the MCL and three homes exceeded the RAL.
- D. USEPA sampled 300 foot monitoring well in Danna Estates. Presently awaiting results of testing.

3. FINANCIAL STATUS:

- A. Total Project Ceiling Authorized \$10,000
- B. Mitigation Contract Funds Authorized and Obligated by DCN #KE-0062 \$ 7,000
- C. Estimate of Total Mitigation Contracts as of 2/19/88 \$ 250
- D. Other Extramural Costs
 - 1.a. TAT salary \$ 0
- E. Intramural Estimated Costs \$1,000
- F. Total Expenditures and Percentages of \$2,000,000 \$ 1,250
(0.06% of 2M)

4. FUTURE PLANS AND RECOMMENDATIONS:

- A. Complete action memorandum upon evaluating alternative solutions.

FINAL POLREP _____ FUTURE POLREPS COMING X Submitted by Lise Pederson
 Lise Pederson, OSC
 Response and
 Prevention Branch

Date released 25 May 88



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08837

POLLUTION REPORT

Region II
Response and Prevention Branch
Edison, New Jersey 08837

DATE: 13 April 1989

(201) 321-6614 - Commercial & FTS

To: W. Muszynski, EPA
S. Luftig, EPA
R. Salkie, EPA
G. Zachos, EPA
R. Basso, EPA
J. Trela, NJDEP
ERD Washington
(E-Mail)
Database Manager

POLREP NO. One (2)
INCIDENT/SITE NO.: Danna Estates/2S
POLLUTANT: mercury
CLASSIFICATION: Major
SOURCE: unknown
LOCATION: Deerfield and Pittsgrove Twps., New Jersey
AMOUNT: Unknown
WATER BODY: Kirkwood-Cohansey aquifer

1. SITUATION:

- A. In January of 1984, the Salem County Department of Health (SCDOH) sampled 37 homes throughout the Pittsgrove Township area. This area included Danna Estates, well in Parvin State Park and well northwest and southeast of Danna Estates. All samples that exceeded the MCL (2 ppb) were located in Danna Estates.
- B. Subsequent sampling by Cumberland County Department of Health (CCDOH), showed three homes exceeding the RAL. Since then New Jersey Department of Environmental Protection (NJDEP), and R.E. Wright Associates, Inc. (REWAI) showed six residents exceeding the MCL (5.5 ppb) with four homes exceeding the RAL. Please note that not all homes in the subdivision were sampled in every sampling event.
- C. No source of contamination is found. As a result, no potentially responsible party is taking timely action.

2. ACTION TAKEN:

- A. Results of sampling show that four homes exceeded the MCL of 2.0 ppb.

- B. EPA filter sampled the four homes receiving bottled water. These results show no change; the mercury is dissolved in the water.
- C. OSC asked ERT to perform a feasibility study on removing mercury using activated carbon. Results show that the activated carbon will work. As a result, an Action Memorandum is prepared and submitted as well as 12 month exemption letter.
- D. The Action Memorandum is signed 17 March 1989.
- E. Access letters are sent to the four homeowners, upon receipt of these letters by the OSC, carbon filtration units will be installed. Annual maintenance for the units will be borne by the homeowner.

3. FINANCIAL STATUS:

A. Total Project Ceiling Authorized	\$91,300
B. Mitigation Contract Funds Authorized and Obligated by DCN #KE-0062 & KE-0053	\$39,000
C. Estimate of Total Mitigation Contracts as of 2/19/88	\$ 2,300
D. Other Extramural Costs	
1.a. TAT salary	\$15,800
E. Intramural Estimated Costs	\$14,550
F. Total Expenditures and Percentages of \$2,000,000	\$32,650 (1.6% of 2M)

4. FUTURE PLANS AND RECOMMENDATIONS:

- A. Install activated carbon units upon receipt of access letters from four (4) home owners. To date, only one (1) has been received.

FINAL POLREP _____
FUTURE POLREPS _____
COMING X _____

Submitted by

Lise Pederson
Lise Pederson, OSC
Response and
Prevention Branch

Date released 13 April 1989



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08837

POLLUTION REPORT

Region II
Response and Prevention Branch
Edison, New Jersey 08837

(201) 321-6614 - Commercial & FTS

DATE: 10 May 1989

To: W. Muszynski, EPA
S. Luftig, EPA
R. Salkie, EPA
G. Zachos, EPA
R. Basso, EPA
J. Trela, NJDEP
ERD Washington
(E-Mail)
Database Manager

POLREP NO. Three (3)
INCIDENT/SITE NO.: Danna Estates/2S
POLLUTANT: mercury
CLASSIFICATION: Major
SOURCE: unknown
LOCATION: Deerfield and Pittsgrove Twps., New Jersey
AMOUNT: Unknown
WATER BODY: Kirkwood-Cohansey aquifer

1. SITUATION:

- A. In January of 1984, the Salem County Department of Health (SCDOH) sampled 37 homes throughout the Pittsgrove Township area. This area included Danna Estates, well in Parvin State Park and well northwest and southeast of Danna Estates. All samples that exceeded the MCL (2 ppb) were located in Danna Estates.
- B. Subsequent sampling by Cumberland County Department of Health (CCDOH), showed three homes exceeding the RAL. Since then New Jersey Department of Environmental Protection (NJDEP), and R.E. Wright Associates, Inc. (REWAI) showed six residents exceeding the MCL (5.5 ppb) with four homes exceeding the RAL. Please note that not all homes in the subdivision were sampled in every sampling event.
- C. No source of contamination is found. As a result, no potentially responsible party is taking timely action.

2. ACTION TAKEN:

- A. Three of the four access authorization letters have been received. The OSC sent to the last homeowner another copy

of access letter along with a letter requesting that they either sign or send a letter stating they do not want the activated carbon unit.

B. Mini-ERCS contractor, S&D, has been given a design of the carbon unit. They are currently getting three bids from contractors in the area.

3. FINANCIAL STATUS:

A. Total Project Ceiling Authorized	\$91,300
B. Mitigation Contract Funds Authorized and Obligated by DCN #KE-0062 & KE-0053	\$39,000
C. Estimate of Total Mitigation Contracts as of 2/19/88	\$ 2,378
D. Other Extramural Costs	
1.a. TAT salary	\$16,200
E. Intramural Estimated Costs	\$14,550
F. Total Expenditures and Percentages of \$2,000,000	\$33,128 (1.65% of 2M)

4. FUTURE PLANS AND RECOMMENDATIONS:

A. Install activated carbon units upon receipt of access letters from four (4) home owners. To date, three have been received.

FINAL POLREP _____
FUTURE POLREPS COMING

Submitted by


Lise Pederson, OSC
Response and
Prevention Branch

Date released

10 May 89



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08837
POLLUTION REPORT

DATE: 20 June 1989

Region II
Response and Prevention Branch
Edison, New Jersey 08837

(201) 321-6614 - Commercial & FTS

To: W. Muszynski, EPA
S. Luftig, EPA
R. Salkie, EPA
G. Zachos, EPA
R. Basso, EPA
J. Trela, NJDEP
ERD Washington
(E-Mail)
Database Manager

POLREP NO. Four (4)
INCIDENT/SITE NO.: Danna Estates/2S
POLLUTANT: mercury
CLASSIFICATION: Major
SOURCE: unknown
LOCATION: Deerfield and Pittsgrove Twps., New Jersey
AMOUNT: Unknown
WATER BODY: Kirkwood-Cohansey aquifer

1. SITUATION:

- A. In January of 1984, the Salem County Department of Health (SCDOH) sampled 37 homes throughout the Pittsgrove Township area. This area included Danna Estates, well in Parvin State Park and well northwest and southeast of Danna Estates. All samples that exceeded the MCL (2 ppb) were located in Danna Estates.
- B. Subsequent sampling by Cumberland County Department of Health (CCDOH), showed three homes exceeding the RAL. Since then New Jersey Department of Environmental Protection (NJDEP), and R.E. Wright Associates, Inc. (REWAI) showed six residents exceeding the MCL (5.5 ppb) with four homes exceeding the RAL. Please note that not all homes in the subdivision were sampled in every sampling event.
- C. No source of contamination is found. As a result, no potentially responsible party is taking timely action.

2. ACTION TAKEN:

A. All four access authorization letters have been received.

B. Mini-ERCS contractor, S&D, has been given a design of the carbon unit. They turned in their bid report. South Jersey Water Conditioning Service in Bridgeton, New Jersey have been chosen as they will provide the least cost to the taxpayer.

C. NJDEP has consistently denied any monetary help with the upkeep of the carbon systems for the homeowners. The homeowners applied to Spillfund for remuneration but were told they had applied too late. Notice to apply came from the county nine months after mercury was found in the well. The homeowners were never notified of the year deadline. An appeal was made on their behalf by EPA, but this too was denied. NJDEP stated that ignorance of the law (not knowing about the year deadline) was not a valid excuse.

3. FINANCIAL STATUS:

A.	Total Project Ceiling Authorized	\$91,300
B.	Mitigation Contract Funds Authorized and Obligated by DCN #KE-0062 & KE-0053	\$39,000
C.	Estimate of Total Mitigation Contracts as of 6/20/88	\$ 3,030
D.	Other Extramural Costs	
	1.a. TAT salary	\$16,200
E.	Intramural Estimated Costs	\$14,550
F.	Total Expenditures and Percentages of \$2,000,000	\$33,800 (1.69% of 2M)

4. FUTURE PLANS AND RECOMMENDATIONS:

A. Install activated carbon units and test for reliability.

FINAL POLREP _____
FUTURE POLREPS _____
COMING _____

Submitted by *Lise Pederson*
Lise Pederson, OSC
Response and
Prevention Branch

Date released 20 June 39



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08837

POLLUTION REPORT

DATE: 26 June 1989

Region II
Response and Prevention Branch
Edison, New Jersey 08837

(201) 321-6614 - Commercial & FTS

To: W. Muszynski, EPA
S. Luftig, EPA
R. Salkie, EPA
G. Zachos, EPA
R. Basso, EPA
J. Trela, NJDEP
ERD Washington
(E-Mail)
Database Manager

POLREP NO. Five (5)
INCIDENT/SITE NO.: Danna Estates/2S
POLLUTANT: mercury
CLASSIFICATION: Major
SOURCE: unknown
LOCATION: Deerfield and Pittsgrove Twps., New Jersey
AMOUNT: Unknown
WATER BODY: Kirkwood-Cohansey aquifer

1. SITUATION:

- A. In January of 1984, the Salem County Department of Health (SCDOH) sampled 37 homes throughout the Pittsgrove Township area. This area included Danna Estates, well in Parvin State Park and well northwest and southeast of Danna Estates. All samples that exceeded the MCL (2 ppb) were located in Danna Estates.
- B. Subsequent sampling by Cumberland County Department of Health (CCDOH), showed three homes exceeding the RAL. Since then New Jersey Department of Environmental Protection (NJDEP), and R.E. Wright Associates, Inc. (REWAI) showed six residents exceeding the MCL (5.5 ppb) with four homes exceeding the RAL. Please note that not all homes in the subdivision were sampled in every sampling event.
- C. No source of contamination is found. As a result, no potentially responsible party is taking timely action.

2. ACTION TAKEN:

A. Two carbon units have been installed. One unit is working but the other is not. The second has been resampled to determine if the sampling or the apparatus is in error.

B. The sub-contractor, South Jersey Water Conditioning has proved to be unreliable and sloppy. The last two units will be installed by C&W and will use the same type of carbon that was used in the bench tests conducted by ERT.

C. The third unit has been scheduled for installation but is pending the delivery of needed material to the sub-contractor.

3. FINANCIAL STATUS:

A. Total Project Ceiling Authorized	\$91,300
B. Mitigation Contract Funds Authorized and Obligated by DCN #KE-0062 & KE-0053	\$39,000
C. Estimate of Total Mitigation Contracts as of 7/25/89	\$ 4,430
D. Other Extramural Costs as of 6 June 1988	
1.a. TAT salary	\$16,200
E. Intramural Estimated Costs as of 15 July 1989	\$15,750
F. Total Expenditures and Percent of ceiling	\$36,400 39.8%

4. FUTURE PLANS AND RECOMMENDATIONS:

A. Install remaining carbon units and test for reliability.

FINAL POLREP _____ FUTURE POLREPS COMING X

Submitted by

Lise Pederson
Lise Pederson, OSC
Response and
Prevention Branch

Date Released 26 July 89

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: September 6, 1989

Region II
Response and Prevention Branch
Edison, New Jersey 08837

TO: W. Muszynski, EPA
S. Luftig, EPA
R. Salkie, EPA
G. Zachos, EPA
R. Basso, EPA
J. Trela, NJDEP
ERD Washington
(E-Mail)
Database Manager
TAT

(201) 548-8730 - Commercial and FTS
24 Hour Emergency

POLREP NO.: Six (6)
INCIDENT NAME: Danna Estates
SITE/SPILL NO.: 2S
POLLUTANT: Mercury
CLASSIFICATION: Major
SOURCE: Unknown
LOCATION: Deerfield and Pitsgrove Twps., New Jersey
AMOUNT: Unknown
WATER BODY: Kirkwood-Cohansey aquifer

1. SITUATION:

A. In January of 1984, the Salem County Department of Health (SCDOH) sampled 37 homes throughout the Pittsgrove Township area. This area included Danna Estates, well in Parvin State Park and well northwest and southeast of Danna Estates.

Subsequent sampling by Cumberland County Department of Health (CCDOH), showed three homes exceeding the RAL. Since then New Jersey Department of Environmental Protection (NJDEP), and R.E. Wright Associates, Inc. (REWAI) showed six residents exceeding the MCL (5.5 ppb) with four homes exceeding the RAL.

No source of contamination has been found. As a result, no potentially responsible party is taking timely action.

2. ACTION TAKEN:

A. Three Activated Carbon units for the removal of mercury from the water supplies have been installed at Messrs. Graham, Markeprang and Swart residences.

B. Mercury removal by Activated Carbon treatment systems has been found to be interfered with by high iron content in acid ground water. This factor has caused difficulties at

100020

two of three residences so far. Extra costs have been incurred in sampling, resampling, analysis and recharge, expending the money approved for the residences involved. Authorization of funding to complete the work is necessary and an action memorandum is being prepared.

3. FINANCIAL STATUS:

Costs

Costs to completion as originally proposed and approved are not adequate to the work required. The distribution of the approved total ceiling is revised as follows:

<u>ITEM</u>	<u>PRIOR ESTIMATE</u>	<u>REDISTRIBUTION</u>
a. Mitigation Contracting	\$ 39,000	\$ 45,400
b. TAT Costs	\$ 14,600	\$ 24,900
c. EPA Costs	\$ 31,300	\$ 21,000
d. Contingency (Unobligated)	\$ 6,400	\$
TOTALS	\$ 91,300	\$ 91,300

Estimated Costs

A. Total Project Ceiling Authorized	\$ 91,300
B. Total Mitigation Contract Ceiling (Revised)	\$ 45,400
C. Mitigation Contract Funds Obligated by DCN #'S KE 0062 & KE 0052 (Revised)	\$ 45,400
D. Estimated Expenditures for Mitigation Contract	\$ 20,400
E. Balance Remaining	\$ 25,000
F. Extramural (TAT) Costs	
1.a. Total Authorized (Revised)	\$ 21,000
1.b. Estimated Expenditures as of 8/25/89	\$ 17,744
1.c. Estimated balance	\$ 7,156

G. EPA Intramural Costs

1.a. Total Authorized (Revised) \$ 21,000

1.b. Estimated Expenditures as of 8/25/89 \$ 16,500

1.c. Estimated Balance \$ 5,500

H. Total Expenditures to date and
Percent of Ceiling \$ 51,886
56%

4. FUTURE PLANS AND RECOMMENDATIONS:

A. Install remaining carbon unit and continue testing for reliability.

FURTHER
POLREPS
FINAL POLREP _____ FORTHCOMING SUBMITTED BY Robert M. Cobiella
Robert M. Cobiella, OSC
Response and Prevention
Branch

DATE OF RELEASE: 9/21/89

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: December 29, 1989

Region II
Response and Prevention Branch
Edison, New Jersey 08837

TO: S. Luftig, EPA
R. Salike, EPA
G. Zachos, EPA
R. Basso, EPA
J. Trela, NJDEP
ERD Washington
(E-Mail)
Database Manager
TAT

(201) 548-8730 - Commercial and FTS
24 Hour Emergency

POLREP NO.: Seven (7)
INCIDENT NAME: Danna Estates
SITE/SPILL NO.: 2S
POLLUTANT: Mercury
CLASSIFICATION: Major
SOURCE: Unknown
LOCATION: Deerfield and Pittsgrove Twps., New Jersey
AMOUNT: Unknown
WATER BODY: Kirkwood-Cohansey aquifer

1. SITUATION:

A. In January of 1984, the Salem County Department of Health (SCDOH) sampled 37 homes throughout the Pittsgrove Township area. This area included Danna Estates, well in Parvin State Park and well northwest and southeast of Danna Estates.

Subsequent sampling by Cumberland County Department of Health (CCDOH), showed three homes exceeding the RAL. Since then New Jersey Department of Environmental Protection (NJDEP), and R.E. Wright Associates, Inc. (REWAI) showed six residents exceeding the MCL (5.5 ppb) with four homes exceeding the RAL.

No source of contamination has been found. As a result, no potentially responsible party is taking timely action.

2. ACTION TAKEN:

A. Water softeners have been installed in three homes (Makeprang, Graham and Swart). The carbon charge at Swart's has been replaced. New samples have been taken at the above three homes and are being analyzed for mercury. Results will be reported when received. One family, Schalik, refuses any EPA assistance, per conversations with the OSC and TATM.

100023

3. FINANCIAL STATUS:

Estimated Costs

A. Total Project Ceiling Authorized	\$127,800
B. Total Mitigation Contract Ceiling	\$ 65,600
C. Mitigation Contract Funds Obligated by DCN #'S KE 0062, KE 0052, KE 3150	\$ 65,400
D. Estimated Expenditures for Mitigation Contracts	\$ 20,020
E. Balance Remaining	\$ 45,380
F. Unobligated Balance Remaining	\$ 200
G. Extramural (TAT) Costs	
1.a. Total Authorized	\$ 30,580
1.b. Estimated Expenditures as of 12/24/89	\$ 19,617
1.c. Estimated balance	\$ 10,963
H. EPA Intramural Costs	
1.a. Total Authorized	\$ 29,000
1.b. Estimated Expenditures as of 12/29/89	\$ 17,452
1.c. Estimated Balance	\$ 11,548
I. Total Expenditures to date and Percent of Ceiling	\$ 57,089 44.7%

4. FUTURE PLANS AND RECOMMENDATIONS:

A. Close Removal Action, write and distribute OSC Report.

FURTHER
POLREPS
FINAL POLREP FORTHCOMING SUBMITTED BY Robert M. Cobiella
Robert M. Cobiella, OSC
Response and Prevention
Branch

DATE OF RELEASE: 01-10-90

100024

THE ACTUAL DOCUMENT IS AVAILABLE
FOR REVIEW IN THE

DANNA ESTATES

SITE FILE

SITE FILES ARE LOCATED AT:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
REMOVAL RECORDS CENTER
BUILDING 205
2890 WOODBRIDGE AVENUE
EDISON, NEW JERSEY
08837

100025

FEB 18 1988 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: EXPEDITED ACTION MEMORANDUM: Request for Approval and Funding
Authorization to take Removal Action under CERCLA/SARA at the
SUBJECT: Deerfield Site in Townships of Deerfield and Pittsgrove, Salem
and Cumberland Counties, New Jersey

FROM: Lise Pederson, On-Scene Coordinator
Response and Prevention Branch

TO: Stephen D. Luftig, Director
Emergency and Remedial Response Division

In response to a request from the New Jersey Department of Environmental Protection (NJDEP), a preliminary assessment of the Deerfield groundwater contamination site is being conducted.

Current criteria for initiation of a removal action has been met at the site. Private residential water supplies have been sampled. NJDEP sampling data of December, 1987 has shown that two (2) homes have exceeded the RAL* and one exceeded the MCL** for mercury. Previous data indicates that an additional three wells may be contaminated. EPA will test all private wells in the area to determine if a risk exists.

This is to propose that we provide bottled water to the 3 homes initially and possibly to as many as 10 homes until a permanent solution can be arrived at. Our plan is to supply bottled water to these homes that exceed the MCL on the basis of the December 1987 samples. If our proposed samples indicate that any other homes exceed the MCL, they too will receive bottled water.

The estimated cost of this proposed action is \$10,000 of which \$7,000 is for mitigation contracting.

An action memorandum for a final solution to the Deerfield groundwater contamination problem is forthcoming.

Please indicate your approval and authorization of funding for

* Removal Action Level

** Maximum Contaminant Level

the Deerfield site, per current delegation(s) of authority, by signing below.

Approved Stephen D. Luftig Date 2/25/18
Stephen D. Luftig, Director
Emergency and Remedial Response Division

cc: (after approval is obtained)

- C. Daggett, 2RA
- R. Salkie, 2ERR-DD
- S. Luftig, 2ERR
- G. Zachos, 2ERR-RP
- R. Cobiella, 2ERR-RP
- B. Sprague, 2ERR-RP
- J. Czapor, 2ERRD-SC
- J. Frisco, 2ERRD-NJRA
- J. Marshall, 2OEP
- W. Mugdan, 2ORC-DRC
- R. Gherardi, 2OPM-FIN
- T. Sullivan, PM-214F (EXPRESS MAIL)
- T. Fields, WH-548B
- J. Gaston, NJDEP
- P. McKechnie, 21G
- V. Pitruzzello, ERRD-PS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

DATE: MAR 16 1989

FROM: Request for a Twelve Month Exemption for the Danna Estates Site,
 SUBJECT: Deerfield and Pittsgrove Twps., New Jersey - ACTION MEMORANDUM.
Site/Spill ID Number: 2S. Category of Removal: Time Critical.
National Significance: No.

FROM: Lise Pederson, On-Scene Coordinator *S. Luftig*
 Removal Action Branch

TO: William J. Muszynski, P.E.
 Acting Regional Administrator

THRU: Stephen D. Luftig, Director *S. Luftig*
 Emergency and Remedial Response Division

I. ISSUE

Continued response actions which exceed a twelve month time period cannot be undertaken unless an exemption from Section 104 (c)(1) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, is granted. Removal activities were initiated at Danna Estates, Pittsgrove and Deerfield Twps., New Jersey, on 25 February 1988 and the twelve month time limitation for removal actions under CERCLA/SARA will expire on the same day in 1989. Circumstances have arisen which have prevented the removal from being completed in the allotted time. As a result, the OSC is requesting a twelve-month time limit exemption.

II. BACKGROUND

A. Incident/Response History

On 14 December 1987, the Removal Action Branch received a request from the NJDEP's Commissioner. The letter requested EPA conduct a removal action on a groundwater contamination site in Danna Estates, Deerfield and Pittsgrove Twps., New Jersey. EPA conducted an extensive evaluation of the site. Groundwater sampling events performed by the New Jersey Department of Environmental Protection (NJDEP), Cumberland County Department of Health (CCDH), Salem County Department of Health (SCDH), R.E. Wright Associates Inc. (REWAI), homeowners, and USEPA indicated that some groundwater levels of total mercury exceed the Maximum Contaminant Level (MCL) of 2.0 ppb, as designated in the Safe Drinking Water Act, and the Removal Action Level (RAL) of 5.5 ppb. USEPA's sampling in 1988 confirmed that four (4) residences had levels of mercury exceeding the MCL for potable water. These four residences are currently receiving bottled water.

An action memorandum is being submitted to request funding for a permanent solution for the four residences. It will bring the total site ceiling to \$91,300, of which \$39,000 is for mitigation contracting.

This site is not on the National Priorities List nor is it proposed to be nominated.

B. Site Conditions

The long term solution to the mercury contamination will be installing activated carbon filtration units to the four affected homes. Currently the four homeowners are drinking bottled water but are still using their contaminated wells for showering and washing. Mercury is absorbable through the skin as well as by ingestion. If a permanent solution is not implemented, the residents will continue to be exposed to mercury contamination.

A final solution has been delayed as a feasible method to solve the problem was difficult to find.

III. EXEMPTION FROM STATUTORY LIMITS

Section 104(c)(1) of CERCLA limits Federal removal actions to twelve (12) months duration unless certain criteria are met. These criteria, along with a discussion of how this site conforms to them, are discussed in the following paragraphs.

A. There is an Immediate Risk to Public Health, Welfare or the Environment

Currently four homes exceed the MCL of 2.0 ppb for mercury and three of the four homes exceed the RAL of 5.5 ppb. These are the homes currently receiving bottled water. A complete history of sample results taken to date is included in Attachment A. A graphic portrayal of some of the results is in Attachment B. A summary of sampling shows the Salem County Department of Health (SCDH) sampled 37 homes throughout the Pittsgrove Township area in January, 1984. This area included Danna Estates, wells in Parvin State Park, and areas northwest and southeast of Danna Estates. All samples that exceeded the MCL of 2.0 ppb and the Removal Action Level (RAL) of 5.5 ppb were located in Danna Estates.

Subsequent sampling by the Cumberland County Department of Health (CCDH) confirmed the mercury contamination of the three (3) homes at levels above the RAL of 5.5 ppb (59, 200, 240). It also showed four (4) additional homes with detectable amounts of mercury, however, these were below the MCL (2.0 ppb). Since then, sampling by R.E. Wright and Associates, Inc. (REWAI), New Jersey Department of Environmental Protection (NJDEP), CCDH, EPA and private sampling

have shown seven (7) residences exceeding the MCL with four (4) additional homes exceeding the RAL. A total of thirteen (13) homes showed measurable mercury in the water. Not all of these homes are now being considered as later sampling showed them to be below the MCL.

B. Continued Response Actions are Immediately Required to Prevent, Limit or Mitigate an Emergency

The bottled water currently being supplied by the EPA has reduced the risk of exposure through ingestion. It, however, does not address exposure through skin absorption as in showering. If this twelve month exemption request is not granted, bottle water deliveries will have to be terminated. This would leave residents with only their own contaminated wells as the primary source of potable water thus again exposing them to a greater extent of contamination.

C. Assistance Will Not Otherwise be Provided on a Timely Basis

No other level of government has agreed to take any action on a timely basis which could provide an adequate solution to this problem. The CCDH and SCDH continue with periodic sampling of the area's wells. The case has been referred to EPA enforcement, but no responsible parties have been identified at this time. Cost recovery, at this date, appears unlikely.

IV. PROPOSED ACTIONS

The proposed action at the site to mitigate contamination is to install activated carbon units into each of the four homes meeting the criteria. Research by ERT into this solution has proven it feasible, lowering the contamination to below the detection limits. Alternate solutions were considered such as extending a watermain, a local water district, and drilling deeper wells. These were either prohibitively expensive or fraught with severe administrative and logistical obstacles.

Until funding to install the carbon units is obtained, bottled water deliveries are planned to continue. These actions will not interfere with any long term cleanup that may be scheduled for this site in the future. The actual time for installation of the units is estimated at two (2) working weeks. However, because access and operation agreements are needed, the total estimated time to complete the project is eight (8) months.

V. RECOMMENDATION

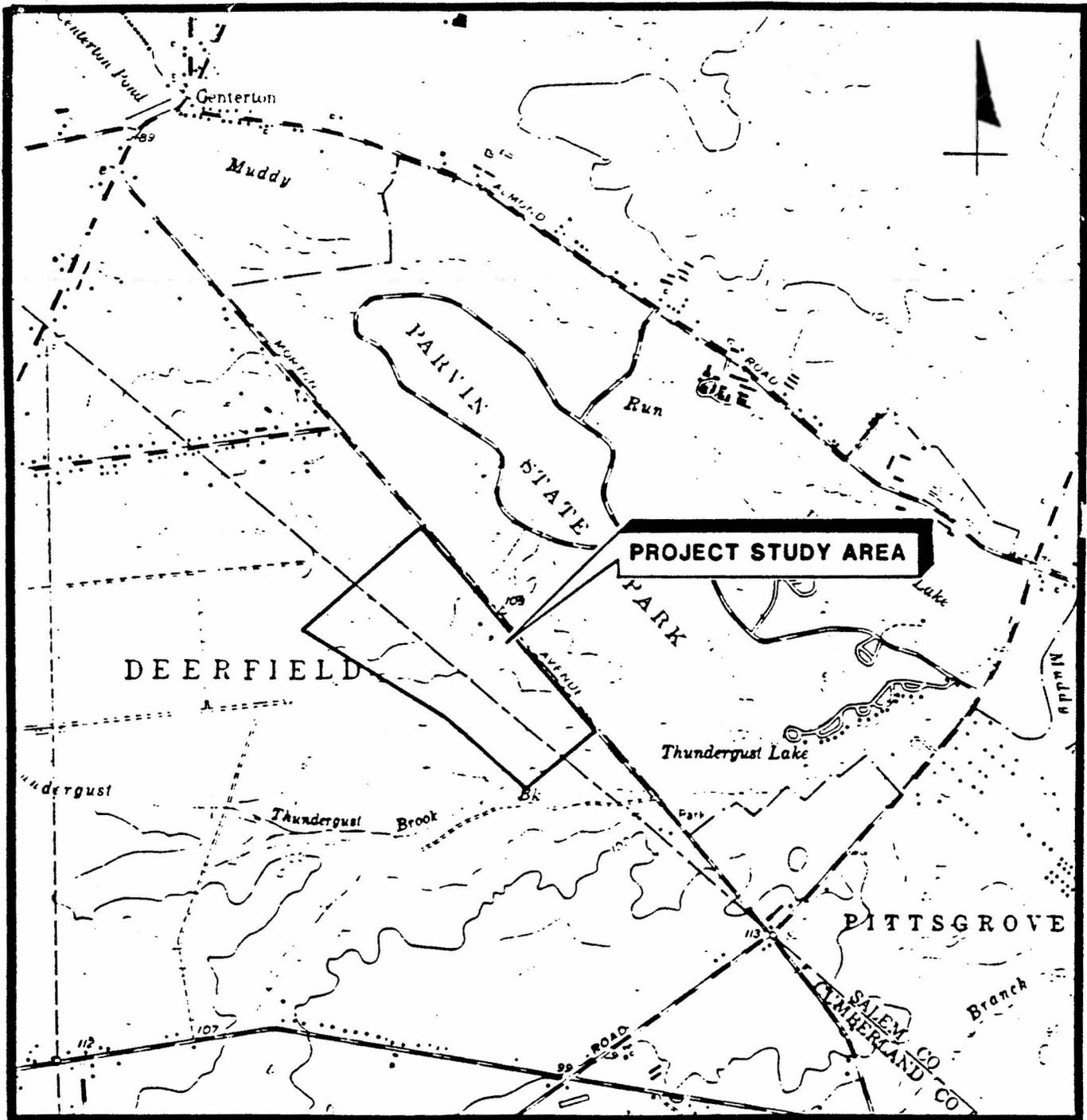
Conditions at this site meet the criteria for a removal action under CERCLA 104(c)(1). I, therefore, recommend that you approve an exemption from the twelve month limit and allow the continuation of removal activities at the Danna Estates site in Deerfield and Pittsgrove Twps., New Jersey.

Your authority to approve this request was established by Lee Thomas' February 26, 1987, Interim Delegation 14-1-A.

Approved: James R. Mendenhall for WSM Date: 3/17/89
Disapproved: _____ Date: _____

cc: (after approval is obtained)

S. Luftig, 2ERR
R. Salkie, 2ERR-ADREPP
G. Zachos, 2ERR-RP
R. Basso, 2ERR-NJCB
J. Frisco, 2ERR-ADRP
M. Randol, 2OEP
D. Karlen, 2ORC-NJSUP
R. Gherardi, 2OPM-FIN
S. Anderson, PM-214F (EXPRESS MAIL)
T. Fields, OS-210
G. McCann, NJDEP
C. Moyik, ERRD-PS
L. Guarneiri, OS-210
J. Rosianski, 2OEP



SOURCE: ELMER AND BRIDGETON 7 1/2 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLES, NEW JERSEY, 1972.

FIGURE 3-1

STUDY AREA LOCATION MAP

0 2000'
SCALE

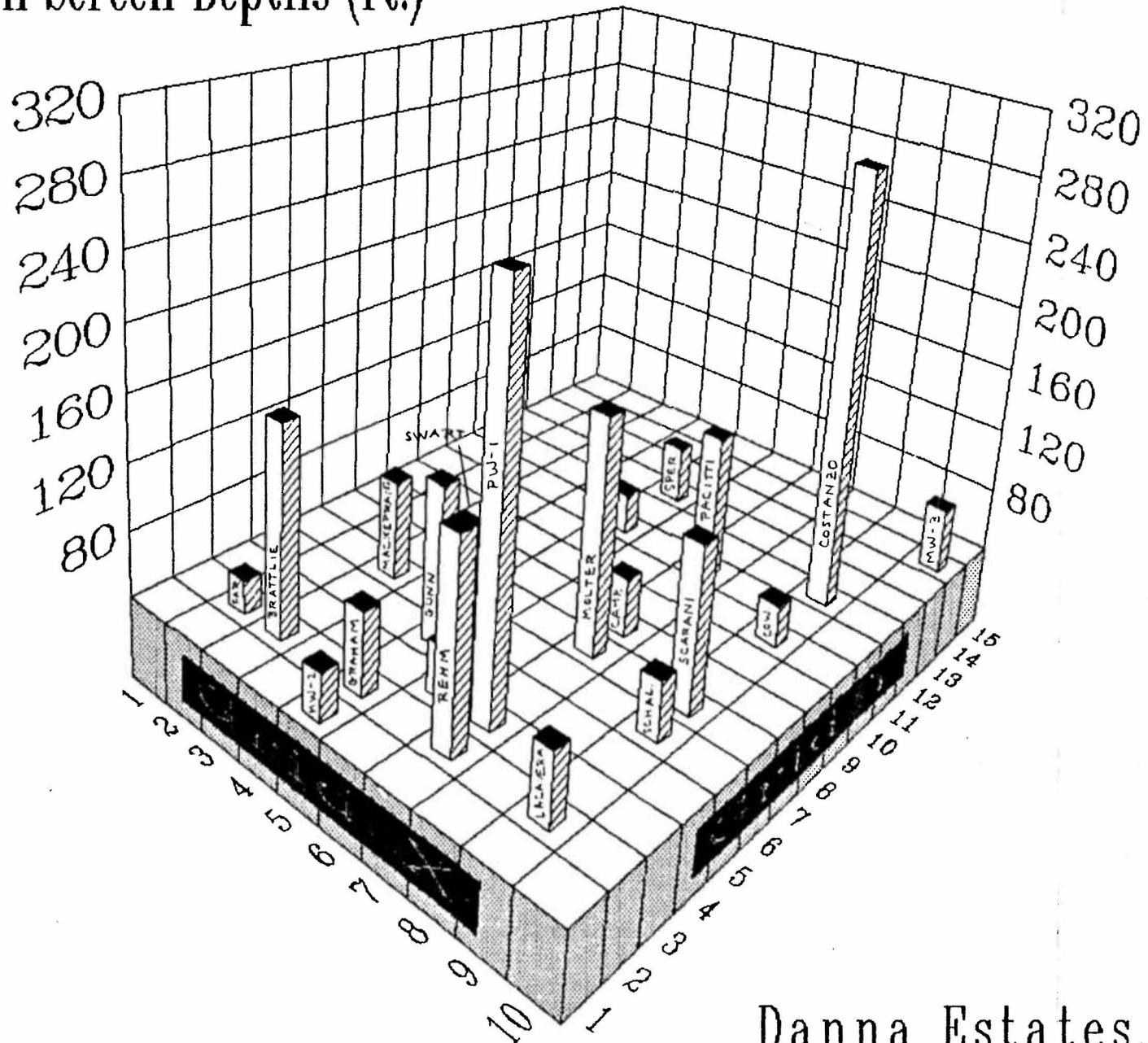
r.e. wright associates, inc.

200007

APPENDIX B

200008

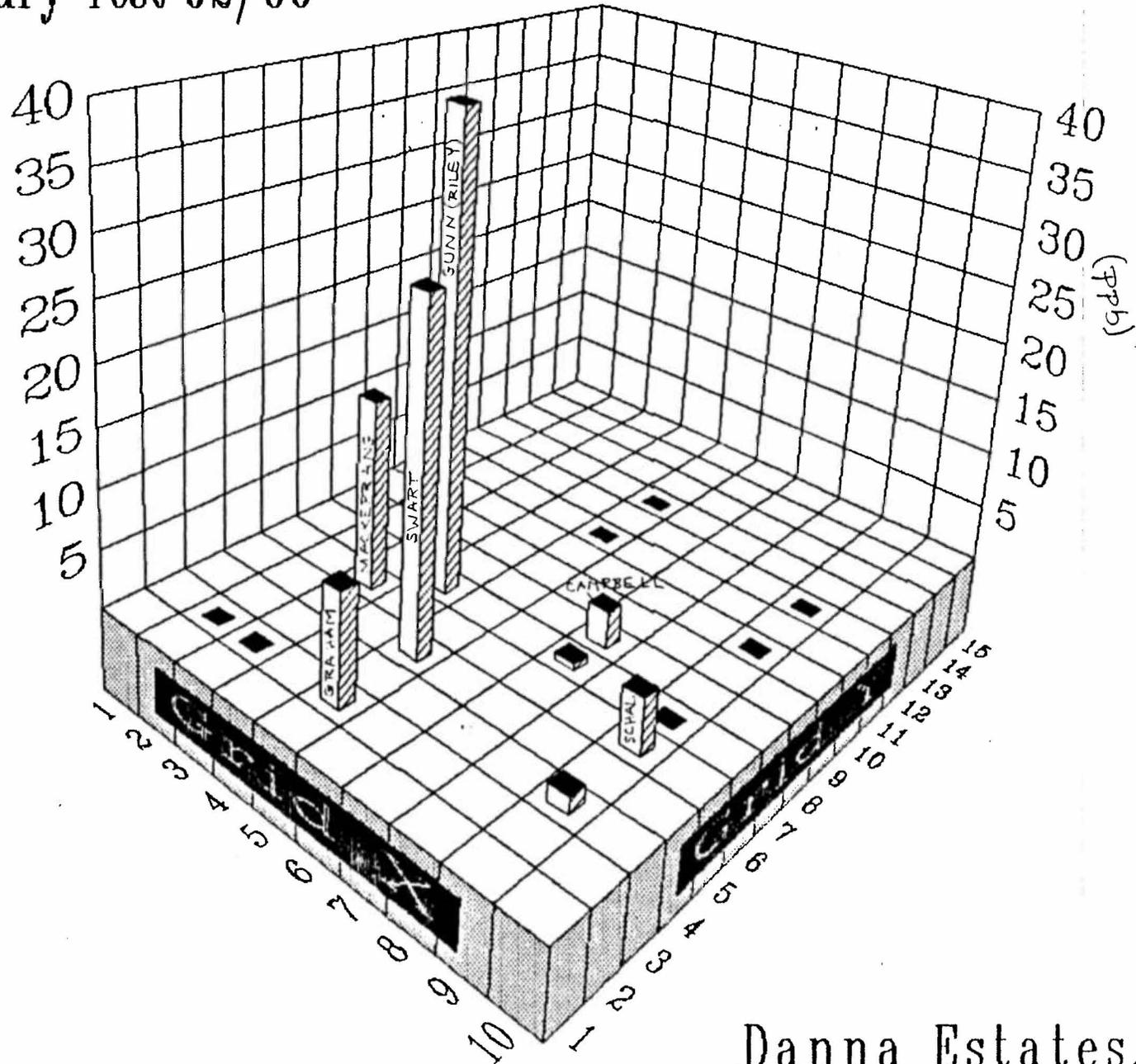
Mean Screen Depths (ft.)



Danna Estates, NJ

200009

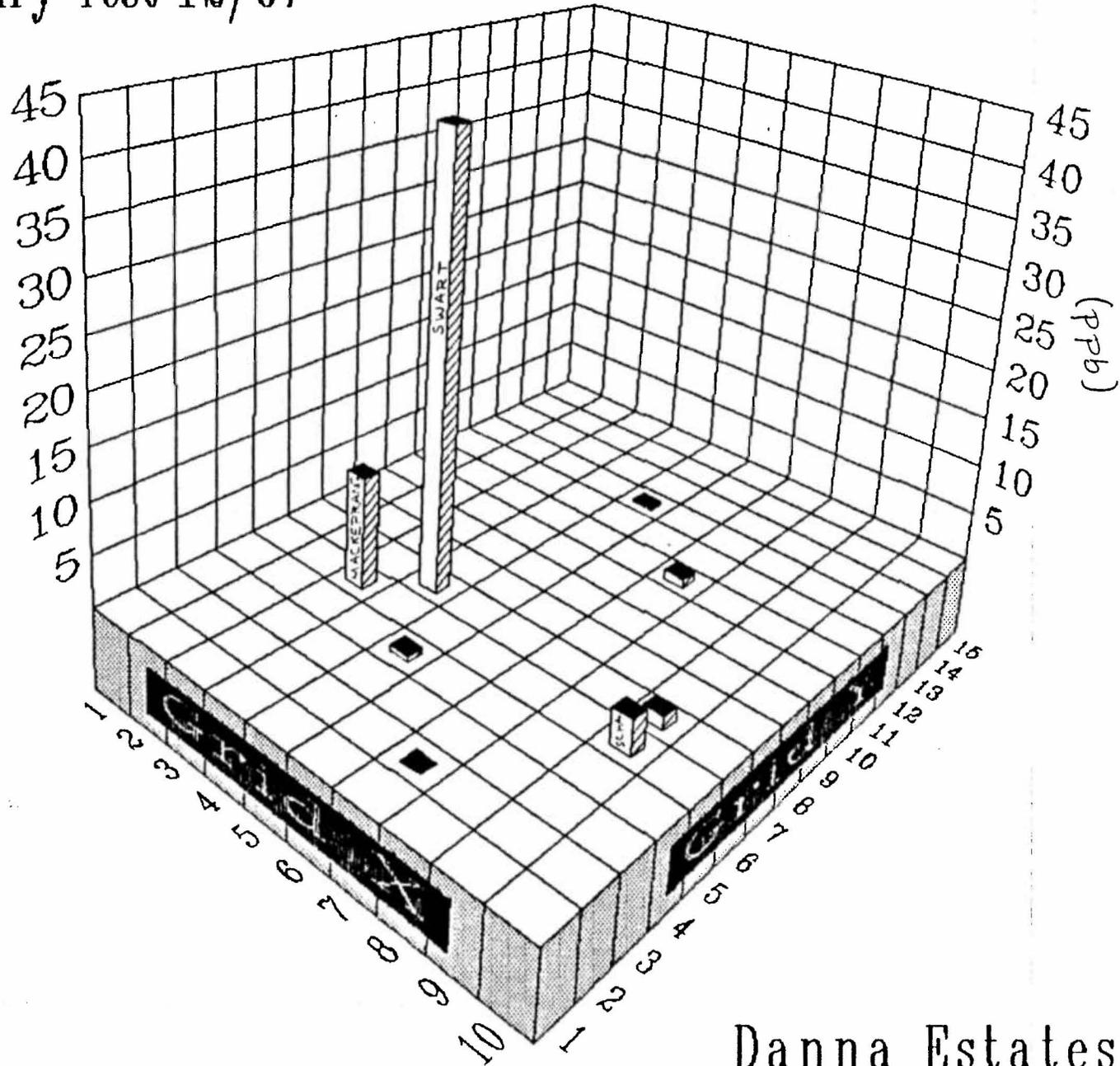
Mercury Test 02/86



Danna Estates, NJ

200010

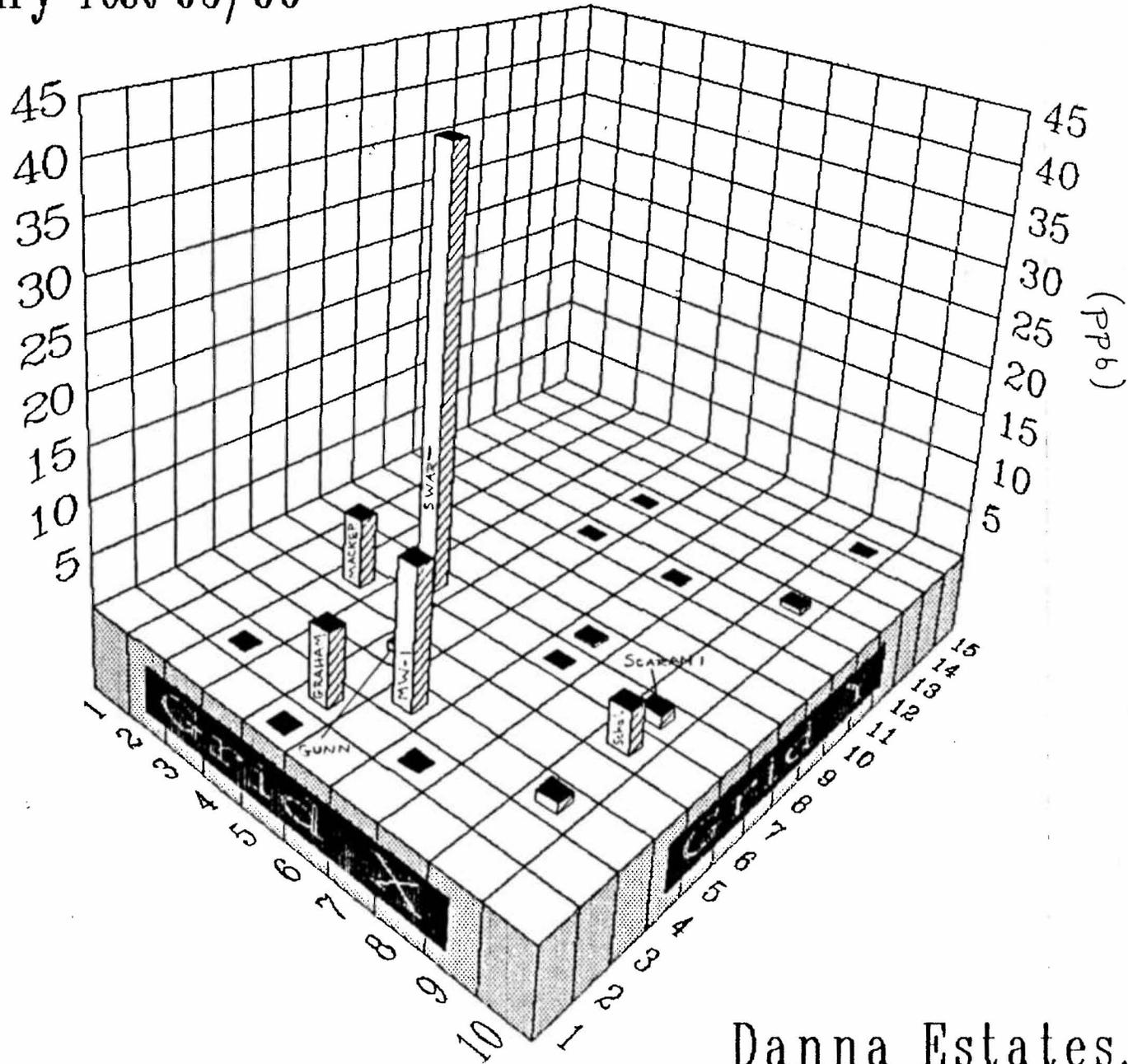
Mercury Test 12/87



Danna Estates, NJ

200011

Mercury Test 03/88



Danna Estates, NJ

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

DATE: MAR 17 1989

SUBJECT: Removal Funding Request for an Alternate Water Supply for Danna Estates, Deerfield and Pittsgrove Townships, Cumberland and Salem Counties, New Jersey - ACTION MEMORANDUM

FROM: *for* Lise Pederson, On-Scene Coordinator *guzel*

TO: Removal Action Branch

for Stephen D. Luftig, Director
Emergency and Remedial Response Division *guzel*

for Richard C. Salkie, Associate Director
Removal and Emergency Preparedness Programs *guzel*

I. EXECUTIVE SUMMARY

In December, 1987, the New Jersey Department of Environmental Protection (NJDEP) referred the Danna Estates site to the EPA. They requested that the EPA assess the mercury contaminated groundwater site for a possible CERCLA/SARA removal action. The contaminated groundwater serves domestic wells in the Danna Estates residential area. To date, no contamination source has been found. The NJDEP has been sampling the area since 1984. Data generated from USEPA sampling conducted in 1988, showed conclusively that four homes had potable groundwater contaminated with mercury in excess of the MCL of 2.0 ppb as designated in the Safe Drinking Water Act. The OSC directed that these four homes receive bottled water.

Currently, 21 homes at the site are within the area at risk. These domestic wells are the sole source of potable water for the residents. As a result, a serious public health threat exists. The OSC proposes that activated carbon units with UV sterilizers be installed in the four homes that have exceeded the maximum contamination level (MCL) of 2 ppb for mercury. This action is in accordance with Section 104(a)(1) of CERCLA, as amended by SARA, since it will contribute to the essential performance of any long term remedial measures.

The estimated cost for this project is \$81,300 of which \$32,000 is for mitigation contracting. This is in addition to the expedited Action Memorandum which requested \$10,000 of which \$7,000 was for mitigation contracting.

200013

II. BACKGROUND

A. Site Setting/Description

The mercury contaminated groundwater area is located in Deerfield and Pittsgrove Townships, Cumberland and Salem Counties. The residents all have their own private wells. The nearest public water supply is in Upper Deerfield, located 2 miles away. This system is owned and operated by the Upper Deerfield Township.

B. Quantity and Types of Contaminants Present

Analysis shows the mercury present in both the organic and inorganic forms. Mercury is a listed hazardous substance under 40 CFR Part 302, Table 302.4. The statutory sources for designation of this hazardous substance under CERCLA are: the Clean Water Act, Section 307(a); Section 112 of the Clean Air Act; and Section 3001 of the Resource Conservation and Recovery Act. The dates, homes, and quantities found are in Appendix A. A graphical presentation is in Appendix B.

C. National Priorities List Designation

This site is not on the National Priorities List (NPL).

III. THREAT

A. Threat of Public Exposure

Though four (4) homes have been receiving bottled water since mid March, 1988, residents are still exposed to mercury through showering and bathing. Since EPA only supports a method for determining the total amount of mercury and not its organic and inorganic parts, we must assume the worst. That is, we must assume that all the mercury is absorbable through either inhalation, ingestion or skin absorption. The effects of different types of mercury are well documented. In a NJDEP memorandum, the volatility and toxicity of mercury is readily apparent (Hazen, 1986). Locally, mercury is a skin and mucous membrane irritant. In the system, it affects the lungs, giving rise to bronchitis and pneumonia. If exposed in lower concentrations over longer periods of time, manic depression, muscle tremors, diarrhea, soreness of the gums and mouth among other symptoms, may result.

B. Evidence of Extent of Release

The Salem County Department of Health (SCDOH) sampled 37 homes throughout the Pittsgrove Township area in January, 1984. This area included Danna Estates, wells in Parvin State Park, and areas northwest and southeast of Danna Estates. All samples that

exceeded the MCL of 2.0 ppb and the Removal Action Level (RAL) of 5.5 ppb were located in Danna Estates.

Subsequent sampling by the Cumberland County Department of Health (CCDH) confirmed the mercury contamination of the three (3) homes at levels above the RAL of 5.5 ppb (59, 200, 240). It also showed four (4) additional homes with detectable amounts of mercury, however, these were below the MCL (2.0 ppb). Further sampling by R. E. Wright and Associates, Inc. (REWAI), in February 1986, indicated that six (6) of the water supplies in Danna Estates were contaminated above the MCL. Since then, sampling by New Jersey Department of Environmental Protection (NJDEP) in December 1987 and CCDH, EPA, in March 1988 have shown that four (4) residences exceed the MCL with three (3) of these homes exceeding the RAL. A total of thirteen (13) homes showed measurable mercury in the water.

C. Previous Action to Abate Threat

SCDOH and CCDH have advised those residents whose water exceeded the MCL to refrain from drinking or cooking with the well water pending resolution of the problem.

D. Current Actions to Abate Threat

The EPA has been delivering bottled water to four (4) homes that exceed the MCL since the middle of March, 1988.

IV. ENFORCEMENT

No enforcement action is in progress at this time as the source of contamination is unknown. If a responsible party is later identified and is willing to undertake remediation of the problem, all or part of the funds requested here may not be spent. This of course assumes that the responsible party(s) act promptly.

REWAI, in doing their hydrogeologic study for NJDEP, drilled four (4) monitoring wells, attempting to better characterize the aquifer properties and monitor the contamination movement.

The site has been referred to the Removal Action Branch.

V. PROPOSED PROJECT AND COSTS

A. Objective of the Project

Alternative 1: Extend the existing Upper Deerfield Township water main to the Danna Estates development. This is the most expensive of all the alternatives. It would involve constructing a water tower to maintain water pressure and

extending the waterline approximately 14,000 feet. The OSC does not recommend this method as it is not cost effective.

Alternative 2: Drill a main well into the lower aquifer for the contaminated homes and construct a mini-water district.

This alternative is fraught with administrative impossibilities as this district would encompass two counties and two townships.

Alternative 3: Drill new deeper wells into the Piney Point aquifer. This could lead to contamination of the lower aquifer. The OSC does not recommend this method due to this possible danger.

Alternative 4: Do nothing. The OSC has shown the danger of mercury previously, thus, this method is not recommended.

Alternative 5: Install a mercury removal system in each of the four homes. We have shown that activated carbon systems will remove the mercury. We recommend that alternative 5 be implemented as it is the most cost effective. The OSC requested ERT to conduct a test on activated carbon to determine when breakthrough of the mercury would occur, based on the worst contaminated well water (50 ppb). Results show that breakthrough would occur in 20 months. ERT recommended that the carbon be changed every year.

B. Project Estimated Cost

The estimated cost for installing four (4) activated carbon filtration units are stated below. The chosen contractor will be responsible for removing the spent carbon every year from one column. The cost accrued for the carbon (approximately \$200 per home) will be borne by the NJDEP, under the Spillfund provision. EPA will also sample each home with a carbon unit before and after the unit to ensure that the unit is indeed working.

Estimated cost:

1) 8 - 2 cu. ft. carbon units at	\$ 16,000
2) 4 UV units at	\$ 4,000
3) 8 samples	\$ 4,000
4) ERCS G&A charge (10%)	\$ 2,400
Total:	<u>\$ 26,400</u>

4) 20% contingency of items 1,2,3	\$ 5,280
Subtotal (<u>Mitigation contract costs</u>)	\$ <u>31,680</u>
Rounded Total	\$ 32,000

5) Extramural (TAT) costs	
	\$ 12,600
Total Extramural costs	\$ 44,280
6) 15% contingency of above costs	\$ <u>6,642</u>
Rounded Subtotal Extramural Costs	\$ 51,000
7) Intramural EPA costs	
a. Direct costs	\$ 9,900
b. Indirect costs	\$ 20,400
c. Subtotal EPA costs	\$ <u>30,300</u>
TOTAL PROJECT CEILING ESTIMATE	\$ 81,300
Monies authorized to date on previous removal action (bottled water)	\$ <u>10,000</u>
TOTAL NEW CEILING REQUESTED	\$ 91,300

C. Project Schedule

The provision for bottled water was approved on 25 February, 1988 with the first shipment of water to the residents to take place shortly after that.

Mobilization of the subcontractor to install the carbon units will be based on the homeowner availability and the contractor's schedule. The installation work is not expected to be over two (2) weeks. However, since access and operation agreements still have to be written and signed, the project is expected to last another eight (8) months.

The burden for maintenance will be upon the NJDEP either directly or indirectly. Either the NJDEP will assume the costs for replacing the carbon directly or the homeowners will; they will then apply to the State for reimbursement under Spillfund.

I, therefore, recommend your approval of installing four (4) activated carbon units to provide safe drinking water to the affected homeowners in the Danna Estates, New Jersey area.

The estimated cost for this project is \$81,300 of which \$32,000 is for mitigation contracting. Approval would bring the authorized contracting funding to \$39,000 and the total project funding to \$91,300.

There are sufficient monies in our current Advice of Allowance to fund this project.

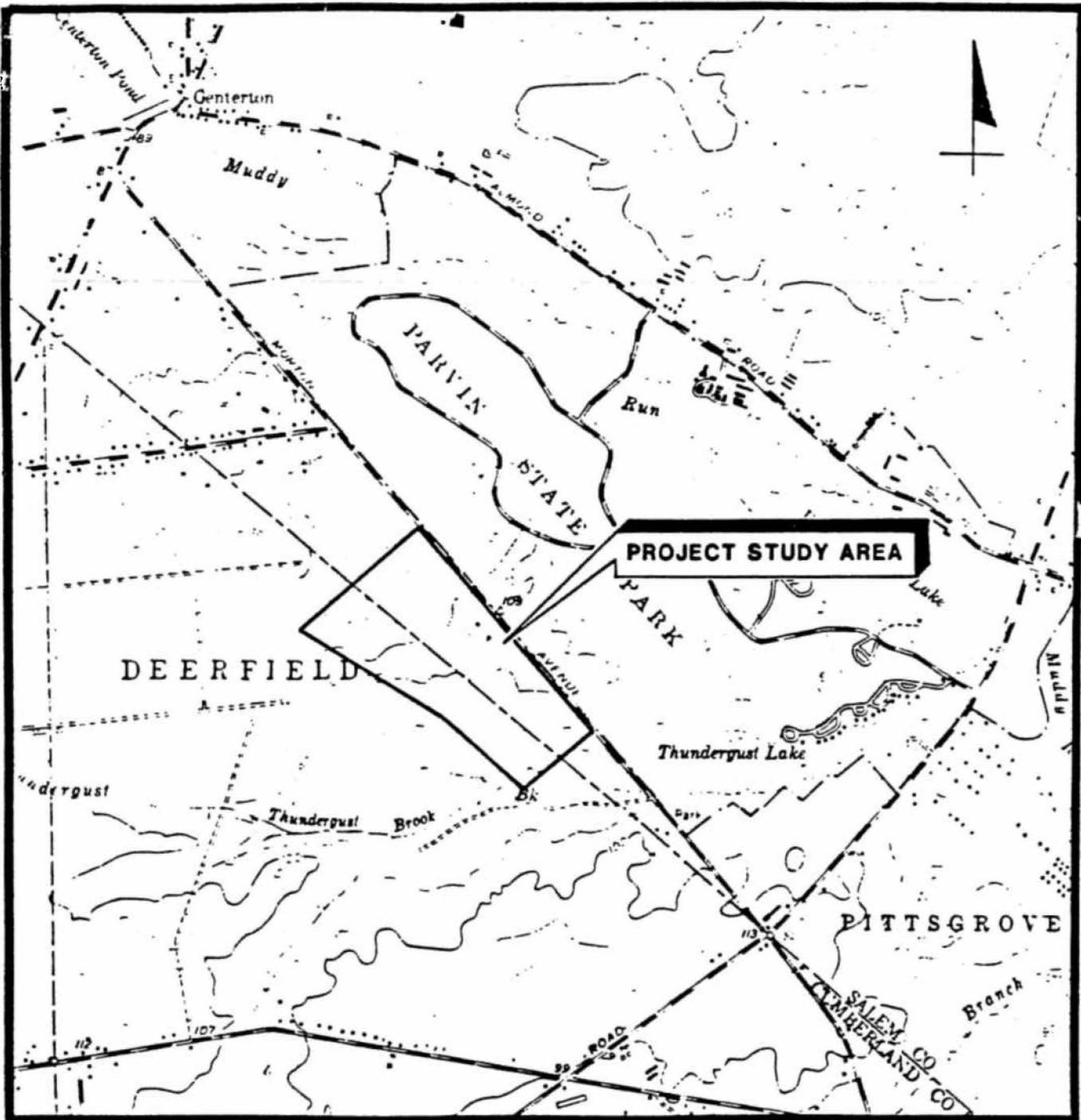
Please indicate your approval and authorization of funding for the Danna Estates site, NJ, per delegation of authority, by signing below.

Approved: Gregory Lawler for S.L. Date: 3/17/89

Disapproved: _____ Date: _____

cc: (after approval is obtained)

- W. Muszynski, 2RA
- R. Salkie, 2ERR-ADREPP
- G. Zachos, 2ERR-RP
- R. Basso, 2ERR-SC
- J. Frisco, 2ERR-NJRA
- M. Randol, 2OEP
- D. Karlen, 2ORC-NJSUP
- R. Gherardi, 2OPM-FIN
- S. Anderson, PM-214F (EXPRESS MAIL)
- T. Fields, OS-210
- G. McCann, NJDEP
- C. Moyik, ERRD-PS
- L. Guarneiri, OS-210
- J. Rosianski, 2OEP



SOURCE: ELMER AND BRIDGETON 7 1/2 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLES, NEW JERSEY, 1972.

FIGURE 3-1

STUDY AREA LOCATION MAP



r.e. wright associates, inc.

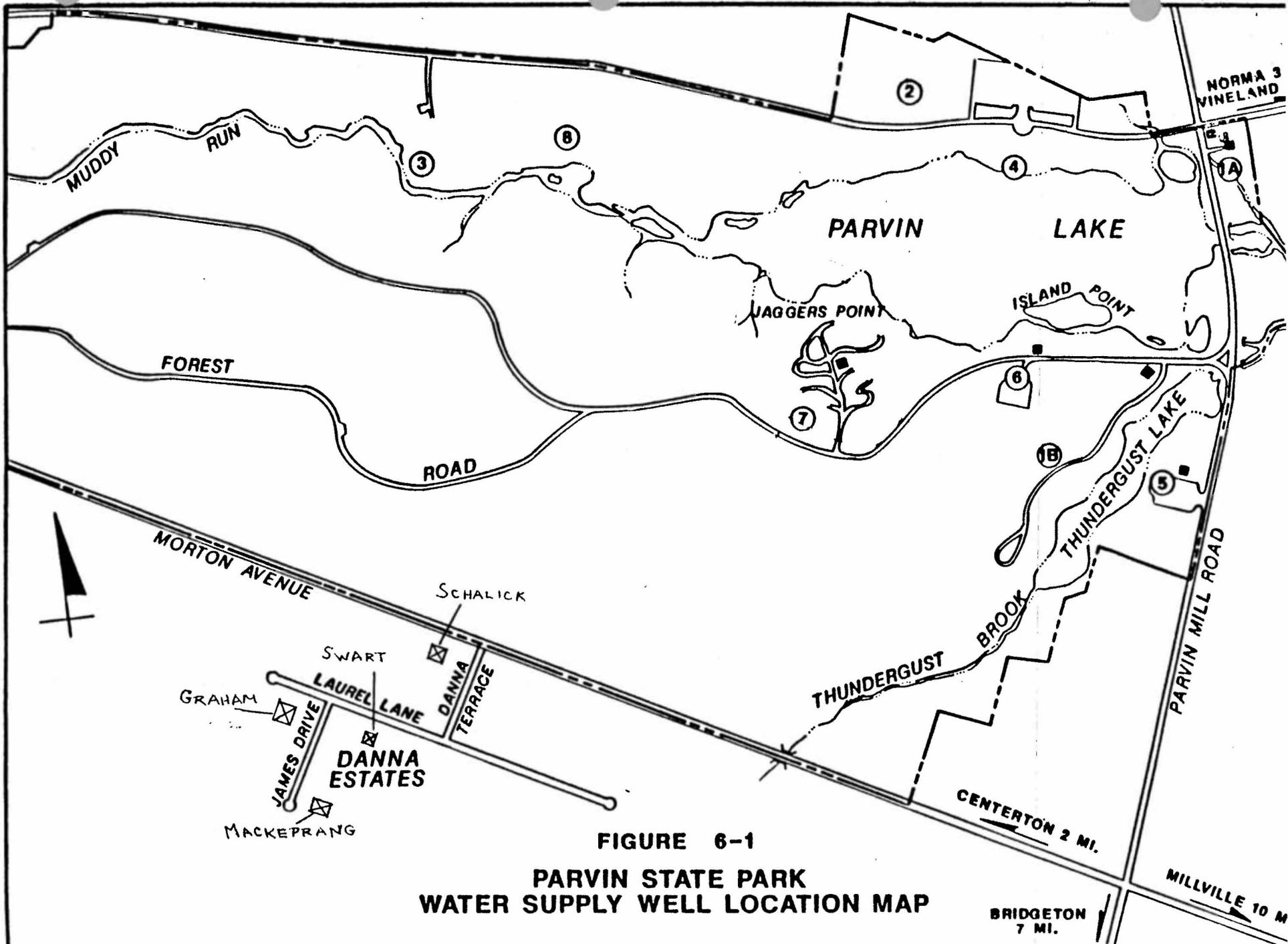


FIGURE 6-1
 PARVIN STATE PARK
 WATER SUPPLY WELL LOCATION MAP

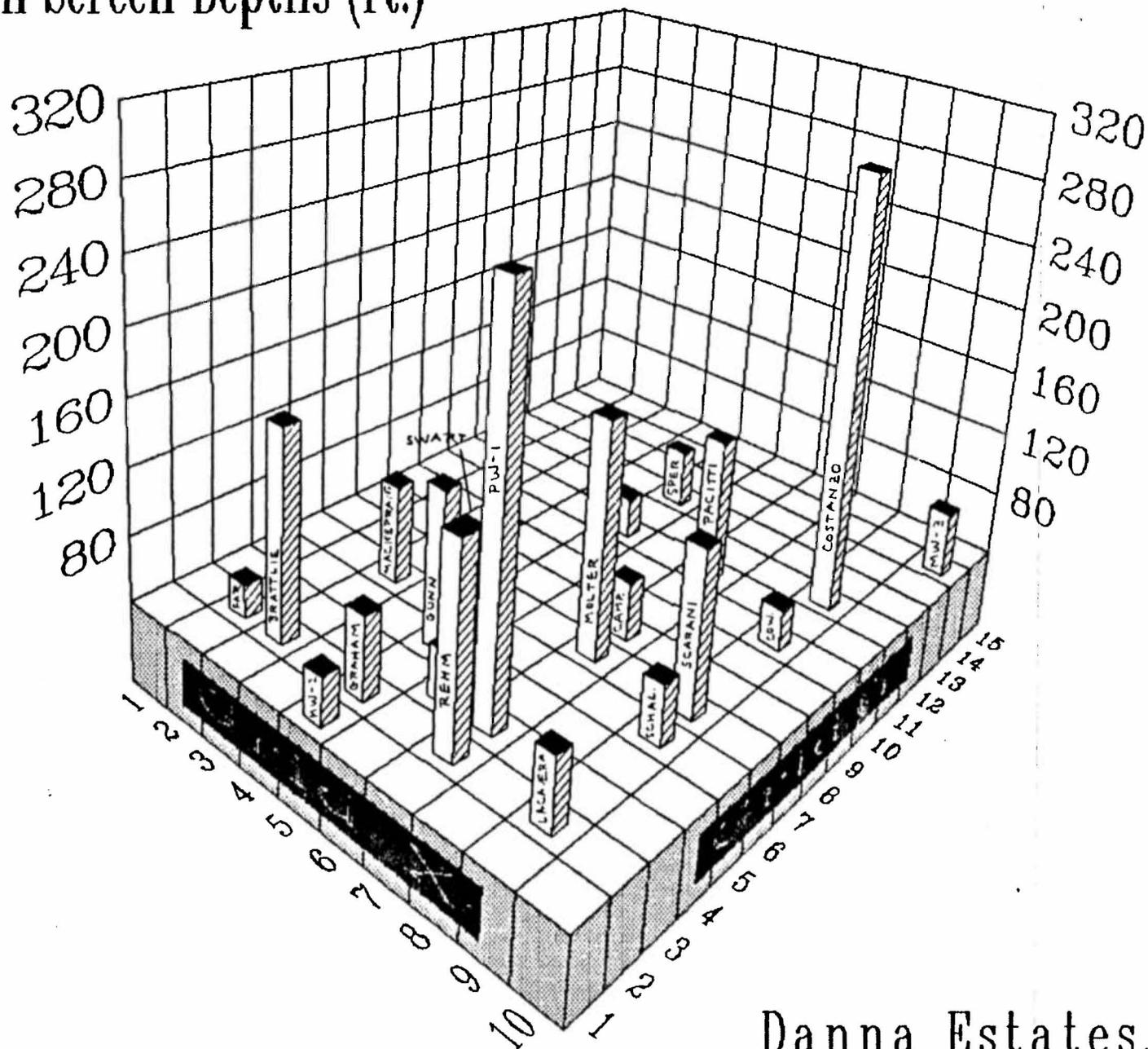


w r. e. wright associates, i
 earth resources consultants
 middletown penn

200020

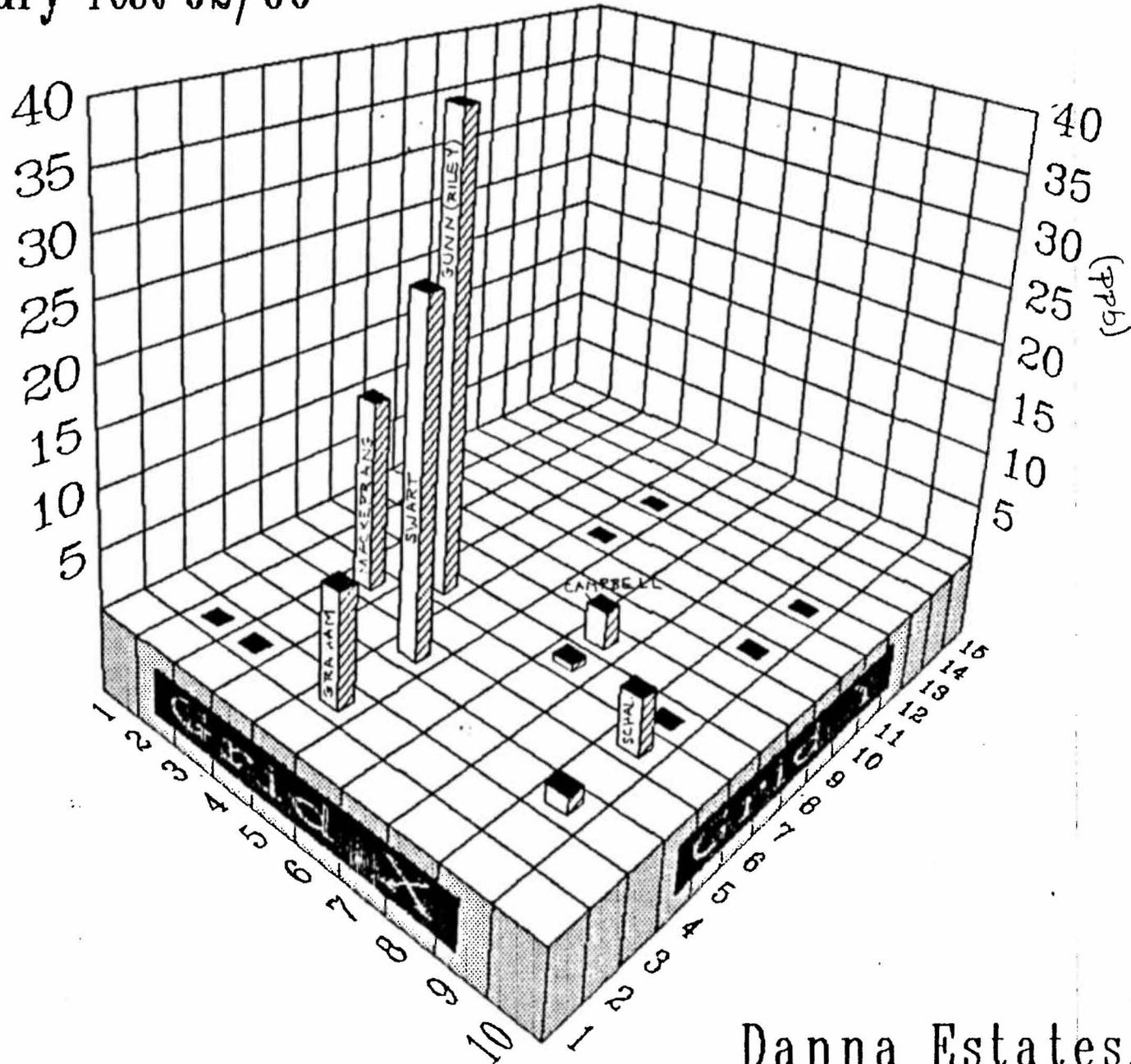
APPENDIX B

Mean Screen Depths (ft.)



Danna Estates, NJ

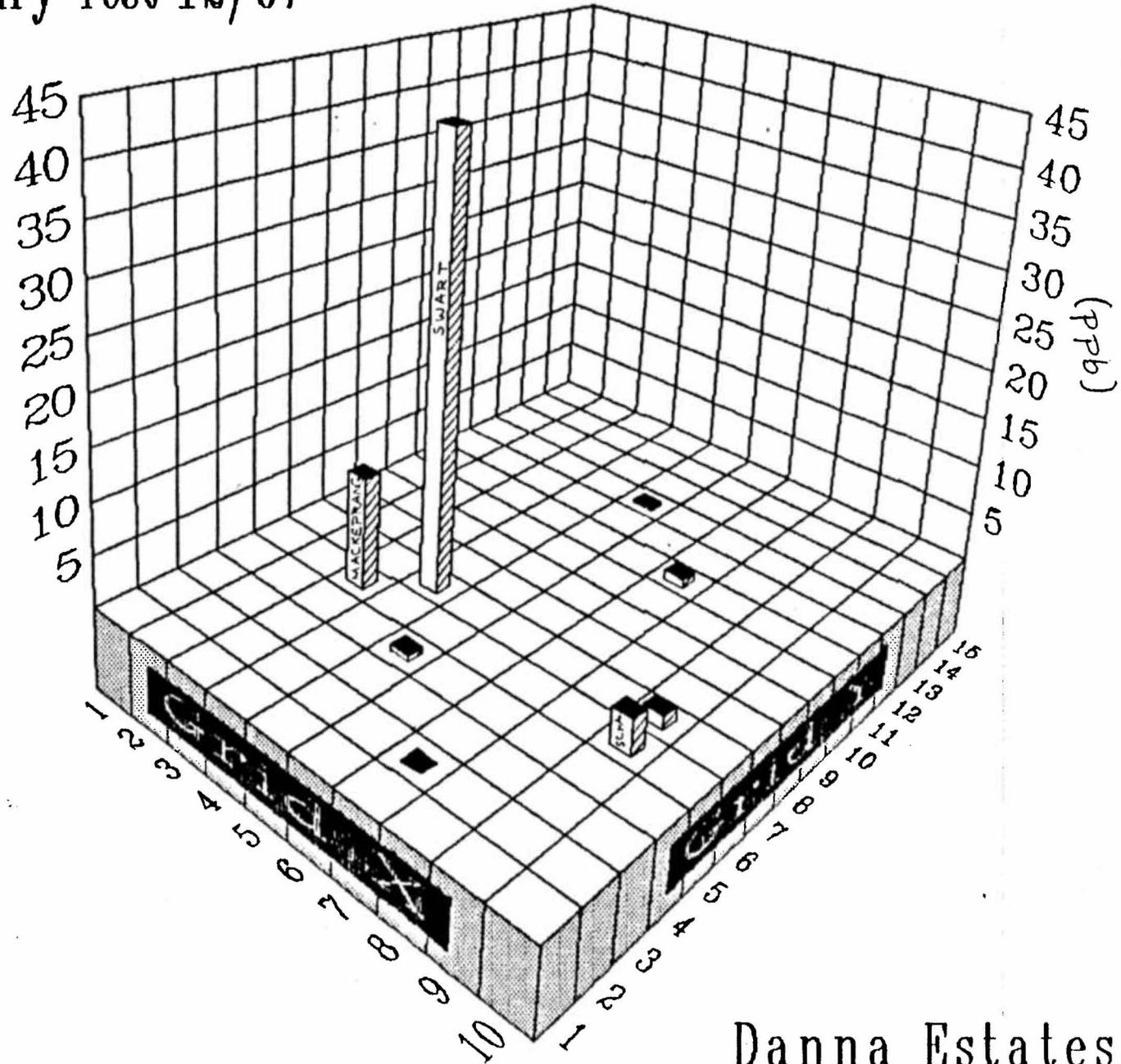
Mercury Test 02/86



Danna Estates, NJ

200023

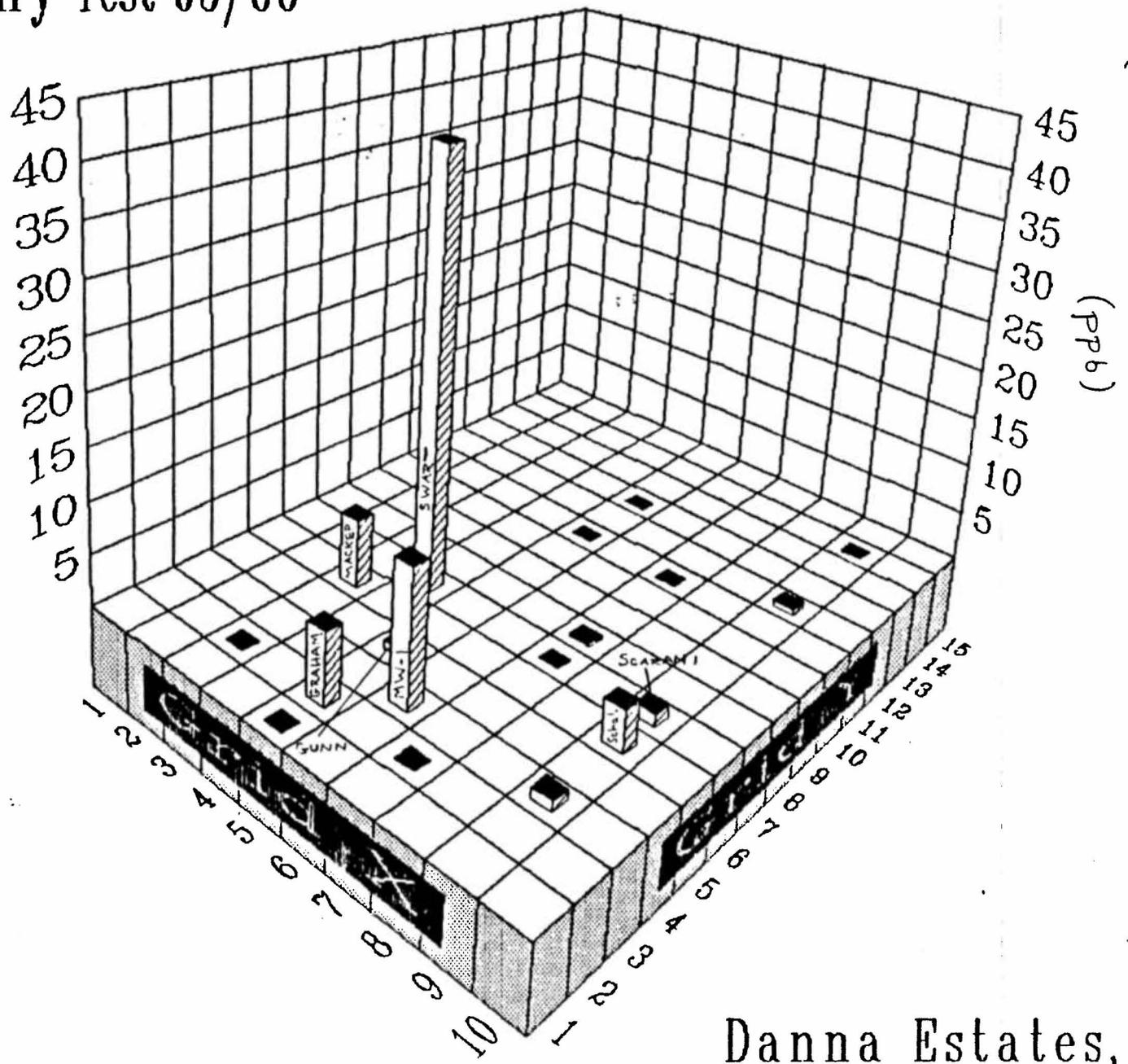
Mercury Test 12/87



Danna Estates, NJ

200024

Mercury Test 03/88



Danna Estates, NJ

200025

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

DATE:

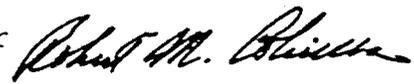
SEP 26 1989

SUBJECT:

Request for Additional Funding to Complete Removal Activity at Danna Estates, Deerfield Township, New Jersey - ACTION MEMORANDUM

FROM:

Robert M. Cobiella, P.E., On-Scene Coordinator
Removal Action Branch



TO:

Stephen D. Luftig, Director
Emergency and Remedial Response Division

THRU:

R. Salkie
Richard C. Salkie, Associate Director for
Removal and Emergency Preparedness Programs

I. ISSUE

Removal activity at this non-NPL site was authorized February 25, 1989. \$32,000 was approved for mitigation contracting on March 17, 1989, to install four activated carbon units to remove mercury (Hg) from drinking water. Three of these have been installed but two of them failed to operate as expected. One of these has been recharged properly and is now operating. The approved money has been spent. In addition, it has been determined that high iron content in water interferes with Hg removal by activated carbon. The issue is a request for approval of a scope expansion to add softeners to all four homes and to further increase the funding to allow completion of the original scope of work.

II. BACKGROUND/THREAT/ENFORCEMENT

A copy of the March 17, 1989, Action Memorandum is attached to provide the information required.

III. PROPOSED PROJECT AND COSTS

It proposed that action be taken to eliminate the iron interference with the mercury removal, by installing softeners in the four homes whose drinking water is contaminated with mercury.

IV. SUMMARY OF COSTS

1. Extramural Costs

Water softeners	\$ 8,000
Activated carbon	4,000
Mini ERCS Labor	2,500
Transportation	100
Sampling -	4,000
Subtotal	<u>18,600</u>

MiniERCS G. & A. 10% of 16,100	1,600
Subtotal	20,200
Contingencies 10% of 20,700	2,020

Total	22,220
Say	22,000

TAT Costs	\$ 5,680
Contingency 15% of 5,680	852
TAT Subtotal	\$ 6,532
Say	\$ 6,500

2. Intramural Costs

EPA	
Direct	\$ 2,640
Indirect	\$ 5,440
EPA Costs	\$ 8,080
Say	\$ 8,000

Total increase in project ceiling	\$36,500
-----------------------------------	----------

	Summary Budget		
	<u>Actual</u>	<u>Increase</u>	<u>Total</u>
Mitigation Contracting	45,400	20,200	65,600
EPA	21,000	8,000	29,000
TAT	24,900	5,680	30,580
Extramural Contingency	-	2,620	2,620
Total Project Ceiling	91,300	36,500	127,800

V. RECOMMENDATION

I hereby recommend your approval and funding authorization of a ceiling increase in the amount of \$36,500 to a new ceiling of \$127,800, of which \$65,600 is estimated mitigation contracting cost, in order to satisfactorily complete the provision of safe potable water at this site. There are sufficient monies in our current Advice of Allowance to fund this work.

Please indicate your approval and authorization, per current Delegation of Authority, of funding for the Danna Estates site removal action by signing below.

Approved

Stephen D. Luftig Date 9/26/89
Stephen D. Luftig, Director
Emergency and Remedial Response Division

Disapproved _____

Date _____

Stephen D. Luftig, Director
Emergency and Remedial Response Division

cc: (after approval is obtained)

W. Muszynski, 2RA
R. Salkie, 2ERR-ADREPP
G. Zachos, 2ERR-RAB
G. Pavlou, 2ERRD-ADEP
J. Marshall, 2-OEP
D. Karlen, 2ORC-NJSUP
R. Gherardi, 2OPM-FIN
T. Fields, OS-210
J. Trela, NJDEP
C. Moyik, 2ERRD-PS
L. Guarneiri, OS-210
J. Rosianski, 2OEP
P. McKechnie, 21G
K. Weaver, OPM-FAM

Let's protect our earth



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
RICHARD T. DEWLING, Ph.D., P.E., COMMISSIONER
CN 402
TRENTON, N.J. 08625
609 - 292 - 2885

*DOA
michigan
or busig (action)
in the cell*

*Response due
1/22/88
RA pig*

December 14, 1987

Mr. Christopher J. Daggett
Regional Administrator
U.S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

Dear Mr. Daggett:

Your agency recently expressed an interest in providing assistance with the contaminated wellfields case of the Bureau of Water Supply (BWS) within the Division of Water Resources, Department of Environmental Protection (Department).

Members of your staff met with the BWS on November 4, 1987 to discuss the possible involvement of the Environmental Protection Agency (EPA) in the Department's ongoing projects whose contamination levels exceeded EPA action levels. The DWS explored more than 35 of its individual cases and your staff indicated that three projects showed the best potential for EPA assistance. The majority of the remaining projects were not deemed eligible under this program. One or two other cases may have some potential but were not as promising as the following three:

- 1) North Haledon, Passaic County
- 2) East Hanover, Morris County
- 3) Deerfield, Cumberland/Salem Counties

This is a formal request for your assistance in these projects. The Department appreciates your agency's offer of assistance and will provide any necessary information that will be helpful in expediting a water supply solution.

RECEIVED
ACTION II
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOV 19 1987
NOV 19 1987

200029

Should you have any questions, please contact Assistant Director William Whipple of the Water Supply and Watershed Management Element within the Department's Division of Water Resources who can be reached at (609) 292-7219.

Sincerely,



Richard T. Dewling

Chris -
Would also
appreciate you
providing us with
a schedule -
Thoy
TD

JAN 21 1988

AT
1/18

Mr. Richard T. Dewling, Commissioner
State of New Jersey
Department of Environmental Protection
CN402
Trenton, N.J. 08625

Dear Commissioner Dewling:

Thank you for your recent letter, received December 18, 1987, referring three sites to us for potential CERCLA/SARA removal action. The sites referred are North Haledon, East Hanover, and Deerfield.

Our Emergency and Remedial Response Division has assigned project officers to each of these sites, your corresponding personnel have been contacted, meetings have been arranged starting January 14, 1988, and information vital to site assessment is now being compiled. Assessments will be made starting this month, evaluating each of these sites. These preliminary assessments will be documented in draft action memoranda, scheduled for completion in February, for review by our legal and remedial personnel. The final funding authorizations are projected to be complete in March, barring unusual difficulties. Should any action of an emergency nature be required, this is routinely identified early, fast tracked and put into action quickly, to protect public health. Field action for these sites can be anticipated early in the spring of this year (third quarter FY-88).

Actual initiation of non-emergency field activity will, of course, be contingent upon availability of funding. I trust the above will satisfy your request for schedule. Should you need further information please contact Mr. Stephen D. Luftig at (212) 264-8672.

Sincerely,

Christopher J. Daggett
Regional Administrator

bcc: 2 CCO

File:Correspondence New Jersey DEP (W/Zachos)
2ERR-RP:Cobiella:2ERR-RP:340-6657:cjb:disk#2:1/7/88:rev.1/11/88

2ERR-RP	2ERR-RP	2ERR-DD	2ERR	2DRA	2RA
Cobiella	Zachos	Salkie	Luftig	Muszynski	Daggett

200031



State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028
Tel. # 609-633-1408
Fax. # 609-633-1454

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

AUG 27 1991

Kathleen Callahan, Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
26 Federal Plaza
New York, New York 10278

RE: Removal Request - Dana Estates Site
Deerfield, New Jersey

Dear Director Callahan:

The New Jersey Department of Environmental Protection (NJDEP) hereby submits the Dana Estates Site for CERCLA removal action consideration. The following information details the case history and supports the removal request.

The Dana Estates Site is a mercury contaminated aquifer serving domestic wells in the Dana Estates residential area situated in Deerfield Township, Cumberland County. The mercury, source unknown, has been detected through sampling and analysis in concentrations in excess of the Maximum Contaminant Level (MCL) of 2.0 ppb in four homes.

In December 1987, the NJDEP referred the site to the USEPA for removal action consideration. Upon acceptance, the USEPA supplied the affected homes with bottled water while designing and installing an on-site treatment system. Carbon filtration units were subsequently installed in three of the homes and a deep well drilled (by owner) in the fourth.

Although the filtration units have been successful in removing the contamination for over one year, recent data gathered by a private contractor hired by a homeowner indicated that mercury levels were again above the MCL.

The underlying aquifer is the sole source of potable water with the nearest alternate source situated approximately 2.0 miles away. As mercury is a highly toxic substance that can be ingested or absorbed through the skin, it is imperative that the integrity of the filter units be investigated and a temporary alternate source of water be supplied to the affected homes.

The Department requests that the USEPA respond by recharging the carbon filtration units and supplying bottled water in the interim.

RECEIVED

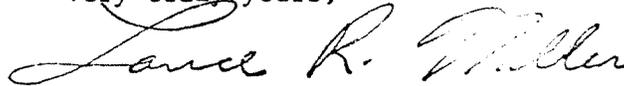
- 2 -

AUG 29 2 12 PM '91

Should your staff require additional information, please have them contact David Triggs of the Bureau of Site Assessment at (609) 584-4289.

ENDY
PREPAREDNESS PROGRAMS

Very truly yours,



Lance R. Miller
Assistant Commissioner

DT:ap

c: Assistant Director Howitz, Discharge Response Element
Chief Downey, Bureau of Southern Enforcement
Richard Salkie, USEPA
George Zachos, USEPA

200033

March 23, 1987

Dear Resident:

In January 1988 the New Jersey Department of Environmental Protection (DEP) requested that EPA further evaluate the known mercury contamination problem in the water wells in Danna Estates for the possible application of Superfund.

Since mid-March, EPA has been providing bottled water to four residences. In addition, as a precaution and to update available information, the Agency recently sampled the drinking water of all the occupied residences in the area for mercury contamination.

The initial results of the testing are expected the first week in April. EPA will alert any resident whose water has mercury concentrations that exceed safe levels for drinking or bathing and provide those so affected with bottled water until a more permanent alternate source of safe water can be arranged.

All residents will receive a written copy of the test results as soon as they become available.

If you have any further questions, please call me at (201) 321-6614. You may also call Rich Cahill at EPA's Office of External Programs in New York City (212) 264-2515.

Sincerely yours,

Lise Pederson
On-Scene-Coordinator
Response and Prevention Branch

apparatus